UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 29 2013

CERTIFIED MAIL 7012 1010 0001 8097 4076
RETURN RECEIPT REQUESTED

City of Greenville
Attn: Mr. Brad Jones
Director of Public Works
340 Main Street
Greenville, Mississippi 38701

Re: U.S. Environmental Protection Agency and Mississippi Department of Environmental Quality Compliance Evaluation Inspection
Information Request and Notice of Opportunity to Show Cause
National Pollutant Discharge Elimination System Permit No. MS0020184
Greenville Wastewater Treatment Plant and Wastewater Collection System

Dear Mr. Jones:

The U.S. Environmental Protection Agency, Region 4 and the Mississippi Department of Environmental Quality (MDEQ) conducted a Compliance Evaluation Inspection (CEI) of the City of Greenville, Mississippi's (Greenville) Wastewater Collection and Transmission System (WCTS). The objective of this CEI was to assess Greenville's compliance with the Clean Water Act (CWA) and Greenville's National Pollutant Discharge Elimination System (NPDES) permit. Additionally, the EPA evaluated Greenville's Management, Operations and Maintenance Programs related to its WCTS. The inspection results are summarized in the enclosed CEI report.

During the CEI, Greenville provided the EPA with a copy of its water and sewer customer complaint database. The EPA has several questions regarding the database, which are outlined below.

(1) Under the "Problem Description" column of Greenville's customer complaint database, what do the following terms mean: (a) sewer (or main) up; (b) sewer (or main) down; (c) CORRECTED (Does this imply an issue on the City's side of the sewer?); (d) Station (or Lift Station) up; (e) s/b/u (EPA assumes sewer backup); (f) c/o (EPA assumes clean out); (g) service line (Is this City owned lateral or privately owned lateral)?
(2) Under "Category Name" column of Greenville's customer complaint database, what are the codes for sewer complaints (e.g. 670)?
(3) Under "Category Name" column of Greenville's customer complaint database, what are the other codes that water/sewer may use (e.g. 560, 650, 660, etc.) and what does each code mean?
(4) Under "Category Name" column of Greenville's customer complaint database, what does "delivered" mean?
(5) Does Greenville input in the "Category Name" code immediately or after a crew responds to determine the category?

(6) If Greenville inputs the "Category Name" code immediately, does anyone go back to QA/QC the codes after the City responds (e.g. what if customer complains about drinking water leaking, but it's found to be a sewer leak upon response)?
(7) What do "Date Promised" and "Date Delivered" mean in Greenville's customer complaint database?

Pursuant to Section 308 of the CWA, 33 U.S.C. § 1318, the EPA hereby requests Greenville to provide the information set forth in the questions above. Greenville is required to respond to this information request, as well as the enclosed CEI report, within 30 days of its receipt of this letter. The response should be directed to:

Mr. Brad Ammons, Enforcement Officer
U.S. Environmental Protection Agency, Region 4
Clean Water Enforcement Branch
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

Greenville's response to this information request should specifically reference the particular question number of the request and should be organized for the purpose of clarity. In addition, all information submitted must be accompanied by the following certification signed by a responsible City official in accordance with 40 C.F.R. § 122.22:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Failure to comply with this information request may result in enforcement proceedings under Section 309 of the CWA, 33 U.S.C. § 1319, which could result in the judicial imposition of civil or criminal penalties or the administrative imposition of civil penalties. In addition, there is potential criminal liability for the falsification of any response to the requested information.

Greenville shall preserve, until further notice, all records (either written or electronic), which exist at the time of receipt of this letter that relate to any of the matters set forth in this letter. The term "records" shall be interpreted in the broadest sense to include information of every sort. The response to this information request shall include assurance that these record protection provisions were put in place, as required. No such records shall be disposed of until written authorization is received from the Chief of the Clean Water Enforcement Branch at the U.S. EPA, Region 4.

If you believe that any of the requested information constitutes confidential business information, you may assert a confidentiality claim with respect to such information except for effluent data. Further details, including how to make a business confidentiality claim, are found in Enclosure B.

Upon review of information submitted by Greenville, pursuant to Greenville's response to the EPA's October 23, 2012, information request letter, as well as information given to the EPA during the January 29, 2013, CEI, the following violations have been identified:

1. Greenville has allowed at least 16 SSOs to occur from February 2007 through July 2012, totaling at least 40,027,750 gallons of untreated sewage that either directly or indirectly affected waters of the U.S. in violation of the CWA and/or in violation of Conditions T-28 (Proper Operation, Maintenance and Replacement) and T-29 (Duty to Mitigate) of Greenville's NPDES permit, issued to Greenville by MDEQ, with an effective date of August 29, 2011.
2. Greenville has failed to report at least 1 SSO to MDEQ in violation of Condition S-4 (Noncompliance Notification – Twenty-Four Hour Reporting). This SSO occurred at the South Theobald pump station and had not been reported to MDEQ as of the date of this CEI.
3. Greenville has experienced numerous sewage building backups according to the electronic customer complaint database provided to EPA during this CEI. Building backups that are caused by flow conditions in the City-owned portion of the WCTS are SSOs and can be indicative of violations of Conditions T-28 (Proper Operation, Maintenance and Replacement) and T-29 (Duty to Mitigate) of Greenville's NPDES permit, issued to Greenville by MDEQ, with an effective date of August 29, 2011.
4. The effluent limit exceedances listed below are a violation of Greenville's NPDES permit.
   - Fecal Coliform (Colonies/100 mL; Monthly Average) – July and August 2012
   - Total Suspended Solids (mg/L; Weekly Average) – November 2011.

Such violations are subject to enforcement action pursuant to Section 309 of the CWA. This Section provides for the issuance of compliance orders, administrative actions to assess penalties and/or the initiation of civil or criminal actions.

To resolve the identified violations and discuss the EPA's possible enforcement actions, including the assessment of appropriate civil penalties, we request that representatives of Greenville contact Mr. Brad Ammons at (404) 562-9769 or via email at ammons.brad@epa.gov, within five business days of Greenville's submittal of the required information requested above to make arrangements for a conference.

In lieu of appearing in the EPA's offices for this meeting, a telephone conference may be scheduled. Greenville's representatives should be prepared to provide all relevant information with documentation, pertaining to the above violations including, but not limited to, any financial information, which may reflect Greenville's ability to pay a penalty. You have the right to be represented by legal counsel. Failure to appear may result in an immediate enforcement action against you or your facilities. The EPA may consider information provided during the meeting or telephone conference in any enforcement proceeding related to this matter.

If you should have any questions regarding this matter, please contact Mr. Brad Ammons.

Sincerely,

James D. Giattina
Director
Water Protection Division

Enclosures

cc: Mr. Chris Sanders
Mississippi Department of Environmental Quality

Mr. Jamon Rucker
Mississippi Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4
Water Protection Division
Clean Water Enforcement Branch

COMPLIANCE EVALUATION INSPECTION REPORT

City of Greenville, Mississippi
Greenville, Mississippi
NPDES Permit No. MS0020184

Facility Address:
Highland Plantation Road
Greenville, Mississippi 38127

Inspection Date:
January 29, 2013

Inspectors:
Brad Ammons, Environmental Engineer, EPA Region 4
Dennis Sayre, Environmental Engineer, EPA Region 4
Jamon Rucker, Mississippi Department of Environmental Quality

Inspection Report Prepared by:
Brad Ammons
Dennis Sayre

March 19, 2013

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ABBREVIATIONS AND ACRONYMS

CCTV	Closed Circuit Television
CEI	Compliance Evaluation Inspection
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
GIS	Geographic Information System
I/I	Infiltration and Inflow
MDEQ	Mississippi Department of Environmental Quality
MOM	Management, Operation, and Maintenance
NPDES	National Pollutant Discharge Elimination System
SCADA	Supervisory Control and Data Acquisition
SORP	Sewer Overflow Response Plan
SSO	Sanitary Sewer Overflow
SUO	Sewer Use Ordinance
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

I. OVERVIEW

The City of Greenville, Mississippi (Greenville), through its Public Works Department, provides sanitary sewer services for residential, commercial and industrial entities within the City of Greenville, Mississippi. Regarding sanitary sewer services, Greenville is responsible for the operation and maintenance of one (1) Wastewater Treatment Plant (WWTP), approximately 200 miles of sewer lines, approximately 101 sanitary sewer pump stations, and other sanitary sewer related facilities.

The Mississippi Department of Environmental Quality (MDEQ) is authorized under the Clean Water Act (CWA) to implement the National Pollutant Discharge Elimination System (NPDES) program in Mississippi. Greenville is covered under NPDES Permit No. MS0020184. MDEQ has not issued any formal enforcement actions against Greenville related to any of its sewer related facilities.

On October 23, 2012, the Environmental Protection Agency (EPA) sent a CWA Section 308 information request letter to Greenville requesting information related to Sanitary Sewer Overflows (SSOs) from the wastewater collection and transmission system (WCTS). Greenville responded to EPA's CWA Section 308 information request letter on November 28, 2012.

EPA conducted a compliance evaluation inspection (CEI) of Greenville's WCTS on January 29, 2013. The purpose of this CEI was to evaluate compliance with the CWA as it relates to SSOs from the sewer system and any effluent limit violations at the WWTP. Additionally, the purpose of this compliance inspection was to examine the causes and potential corrective actions for SSOs from the sewer system.

During the January 29, 2013 CEI, EPA and MDEQ visited six (6) sewer pump stations and two (2) sewer line canal/drainage way crossings. Below are the specific facilities inspected during the January 29, 2013 CEI.

Pump Stations

- S. Theobald Pump Station
- Anne Stokes Pump Station
- Wildwood #1 Pump Station
- Wildwood #2 Pump Station
- Producers Mill Pump Station
- Tennessee Street Pump Station

Canal sewer crossings

- Reed Road south of Hwy 82
- Cypress Lane at Anne Stokes Road (ended up being a potable water line)

This report describes EPA's findings, and provides an initial analysis of SSOs from the sewer system. In this report, EPA also identifies areas that need to be addressed and presents preliminary recommendations.

II. OBJECTIVES

The specific objective of this WCTS CEI was to assess the sewer system and Greenville's compliance with the CWA and/or its NPDES permit. Additionally, EPA examined the causes of SSOs from Greenville's sewer system and pump stations.

III. INVESTIGATION METHODS

The investigation of Greenville included:

- A review of federal databases and the NPDES permit.
- Review of Greenville's November 28, 2012 response to EPA's CWA Section 308 Information Request Letter.
- Interviews with Greenville personnel.
- Review of Greenville's records/documents.
- Visual inspection of SSO locations in the sewer system and pump stations.

IV. REGULATORY SUMMARY

Greenville is covered by NPDES permit no. MS0020184, which authorizes the discharge of treated wastewater under certain conditions from its WWTP into the Mississippi River. Steele Bayou was listed in MDEQ's 2006 §303(d) list near Issaquena from Black Bayou to the Yazoo River for nutrients, organic enrichment (low dissolved oxygen), and sediment/siltation (NOTE: this section of Steele Bayou is downstream of Greenville). MDEQ has not issued any formal enforcement for SSOs or effluent limit violations of the NPDES permit.

V. INSPECTION SUMMARY AND FINDINGS

EPA conducted a CEI of Greenville's WCTS on January 29, 2013 to evaluate compliance with the CWA and/or provisions of Greenville's NPDES permit.

A. Analysis of SSOs

Discharges from municipal sanitary sewer systems to waters of the United States are prohibited, unless authorized by an NPDES permit. In addition, overflows from the sewer system that do not reach waters of the United States and sewage backups into buildings that are caused by flow conditions in the City's sanitary sewers are indicative of a failure to comply with the proper operation and maintenance and/or other provisions of the NPDES permit.

On November 28, 2012, Greenville submitted to EPA information related to SSOs that occurred from February 2007 through July 2012. EPA analyzed this information and assigned each discharge a cause based on the information provided by Greenville. Greenville uses seven (7) major categories to assign causes to each SSO. These

categories are: Mainline clogged; Hurricane; Pipe collapse; Sludge/debris buildup; Grease buildup; Pump failure; and Pump clogged.

According to Greenville personnel, Greenville identifies SSO events typically by customer complaints.

The average annual total SSO volume from the sewer system and pump stations reported by Greenville from February 2007 through July 2012 is unknown because 9 of the 13 SSOs from the WCTS reported by Greenville in its §308 information request response did not have a volume associated with those SSOs. During the same period, over 61% percent of the SSO occurrences were attributed to either grease or debris blockages in Greenville's sewer pipes.[1] The table below breaks down the causes of SSOs in the sewer system by occurrence.[2]

Cause	Percent
Mainline clogged	53.8%
Hurricane	7.7%
Pipe collapse	7.7%
Sludge/debris buildup	7.7%
Grease	7.7%
Pump failure	7.7%
Pump clogged	7.7%

Greenville reported that it had no locations with chronic or recurring SSOs and/or constructed overflow structures. In addition, Greenville has no written Management, Operations and Maintenance (MOM) Programs.

Finding: Greenville has not reported all of its SSOs to MDEQ and at least in one case, had a major spill that was not reported for weeks and had not been reported as of the date of this CEI. Greenville employees told EPA and MDEQ that they experienced a large SSO at the South Theobald pump station a few weeks prior to this CEI. *See enclosed photos for evidence of this very large SSO at the South Theobald pump station.*

Recommendation: Greenville should develop a written Sewer Overflow Response Plan (SORP) to ensure that Greenville has proper SSO notification, reporting and recordkeeping procedures.

[1] Greenville provided EPA with a copy of its customer complaint database during the January 29, 2013 CEI. In reviewing this database, it appears that Greenville has experienced a lot more SSOs than were reported in Greenville's §308 information request response.

[2] As EPA reviews Greenville's database, it is likely that these percentages will significantly change. Percentages based upon Greenville's reported SSOs in its §308 information request response and do not include 3 violations reported as SSOs at the WWTP.

Finding: Mainline clogging and sludge/debris/grease are the two leading causes of SSO occurrences reported by Greenville in its response to EPA's information request letter.

Recommendations: Greenville should develop and implement a Gravity Line Operations & Preventative Maintenance Program for routine cleaning of the entire WCTS, as well as a Fats, Oils and Grease (FOG) Control Program to prevent the entry of FOG into the WCTS. However, many municipal utilities attribute SSOs to grease, when the true cause of the blockage is different. For example, grease may not block a sewer unless there are roots, offset joints and/or other sewer defects that cause the grease to accumulate. Therefore, Greenville should have a standard procedure for investigating the underlying causes of the SSOs more thoroughly, develop and implement a Sanitary Sewer Evaluation System (SSES) and Rehabilitation Program, and institute a system-wide preventative cleaning program. As at least one of the reported SSOs was attributed to sludge/debris in the wet well of a pump station, Greenville should also develop a Pump Station Operations and Preventative Maintenance Program to ensure proper O&M of the pump stations that Greenville owns and operates.

Finding: Greenville only has 2 of its 101 sewer pump stations on Supervisory Control and Data Acquisition (SCADA) and none of the pump stations visited had on-site alarms or backup power. In addition, Greenville employees stated that there are several pump stations in their WCTS that are too large for the largest portable generator the City owns.

Recommendations: Greenville should consider installing SCADA systems on the Pump Stations it owns and operates. Greenville should install on-site alarms (visual and/or audible) at the pump stations it owns and operates. Finally, Greenville should either install on-site generators and/or purchase portable generator(s) that are large enough to power the City's largest pump stations.

B. Capacity, Management, Operation, and Maintenance Programs

EPA assessed several of Greenville's CMOM programs through this inspection. The following sections will discuss and provide recommendations for several MOM programs.

1. Continuous Sewer System Assessment Program

a. Prioritization

This was not specifically discussed during the inspection. However, it appears that the City does not prioritize sewer areas for inspection/assessment.

Recommendations: Greenville should develop and implement a sewer WCTS prioritization program to drive its sewer inspection/assessment activities.

b. Corrosion Defect Identification

Greenville has experienced several sewer line breaks in the past. In fact, Greenville's largest reported SSO of 3 million gallons was due to a 30" force main break along the Mississippi River. While that SSO was not directly attributed to corrosion, EPA noted signs of corrosion in other parts of the WCTS during this CEI. *See attached photos for evidence.*

Recommendations: Greenville should identify any major sewer line that may be subject to corrosion. Therefore, Greenville should develop a program that includes procedures for corrosion identification, corrosion identification forms, performance goals, corrosion defect analysis, and a mechanism to collect this data.

c. Manhole Inspection

While this was not discussed specifically, Greenville does not appear to have a WCTS-wide system of inspecting manholes.

Recommendations: Greenville should develop a program to routinely inspect manholes within the entire sewer system. The program should include standard manhole inspection procedures, inspection forms, performance goals, manhole defect analysis, and a mechanism for collecting this data.

d. Gravity Sewer Line Inspection

Greenville does not appear to have a WCTS-wide system of inspecting gravity sewer lines as Greenville employees told EPA and MDEQ that the only time gravity lines are CCTV'd is after a SSO occurs. In fact, Greenville has to hire a contractor to conduct CCTV inspections.

Recommendations: Greenville should develop and implement a program to routinely inspect gravity sewer lines as part of the recommended SSES and rehabilitation program. This program should use industry-standard methods of inspection (e.g. Closed-Circuit Television of gravity sewer lines, dyed water flooding, smoke testing, etc.). Finally, this inspection program should also inspect sewer laterals.

e. Flow Monitoring

Greenville does not have any flow meters in its WCTS. According to Greenville personnel, there are two locations in the WCTS that have wet weather capacity limitations: (1) the Smith interceptor and (2) the interceptor located near the intersection of Reed Road and South Colorado Street. In fact, EPA noted several locations of other capacity-limited sewers during this CEI. *See attached photos for evidence.*

Recommendations: Greenville should develop a flow monitoring program to support engineering analyses related to sewer system capacity and peak flow evaluations. This program would help in understanding the causes of and finding possible locations of SSOs, and help in the development of a sewer model. The program may include the use of an appropriate number of calibrated permanent or temporary flow meters during specific sewer system assessment activities. The program should also include adequate rainfall measurement and mechanisms to collect the flow monitoring information.

f. Gravity System Defect Analysis

Greenville does not appear to have any Gravity System Defect Analysis program as employees told EPA that it does not inspect the sanitary sewers by CCTV unless a SSO has already occurred.

Recommendations: Greenville should develop and implement a program that analyzes gravity sewer system defects. This program should include industry standard defect codes (available from different sources), written defect identification procedures and guidelines, a standardized process for cataloging gravity system defects, and mechanisms to collect and save this data for further analysis. This data could be used to develop and/or support rating criteria used in the prioritization scheme.

g. Pump Station Performance and Adequacy

According to Greenville personnel, there are two crews that check pump stations. These crews drive by each pump station daily (Monday-Friday) and do a more detailed check on each station once a month.

According to the pump station check sheet that was provided to EPA and MDEQ, it appears that Greenville only records the date, # of working pumps, the wet well level and if electrical controls are working during its monthly pump station check. If pump run times are not recorded, there is no real way for Greenville to determine the adequacy of its pumps.

Recommendations: Greenville should develop and implement a program that evaluates pump station performance and adequacy. The program should include trend analysis of pump run-times, pump start counters, historical review of causes for pump failures or SSOs, and mechanisms to collect and analyze this data. Greenville should specifically consider installing SCADA systems on its pump stations. Greenville should use this data to evaluate if pump stations are adequate to handle flows, and identify performance problems.

2. Infrastructure Rehabilitation Program

In the last five years, Greenville has not completed any WCTS rehabilitation except

for that paid for by a 2010 State Revolving Fund (SRF) loan from MDEQ. This 2010 SRF loan was for the South Colorado Street (All Saints Circle) sewer project in the amount of $479,465.

Recommendations: Greenville should conduct a system-wide SSES and Rehabilitation Program. Specifically, the SSES should evaluate all gravity sewer line defects, manhole defects, pump station defects, force main defects and siphon defects. Finally, a post-rehabilitation inspection program should be developed and implemented in order to review the effectiveness of the rehabilitation program.

3. System Capacity Assurance Program

a. Capacity Assurance for New Connections, and
b. Protocols for Capacity Assurance

Greenville does not have a formal, written WCTS capacity assurance program. As mentioned above, Greenville employees identified to the 2 following capacity limited areas in the City's WCTS:

- Smith interceptor
- Reed Road at South Colorado Street interceptor (18" pipe).

In addition, EPA noted several locations of capacity limited sewers/pump stations during this CEI. *Please see attached photos for evidence.*

Recommendations: Greenville should develop and implement a formal program to ensure that there is adequate capacity to collect, transmit, and treat additional sewage expected as a result of prospective new sewer connections. Greenville should develop standardized design flow rules of thumb (i.e., regarding pipe roughness, manhole head losses, accuracy of distance and slope on as-built drawings, and water use). Additionally, Greenville should use techniques to predict the impacts of additional flow (i.e., hydraulic model of sewer system) and flow metering to confirm mathematical estimations of existing peak flow. The program should also require the certification of adequate capacity by a registered Professional Engineer.

4. Sewer Mapping and System Inventory Program

Greenville has not placed the WCTS maps into a geographic information system (GIS). In fact, City employees could not locate an entire WCTS map and told EPA that the sewer map is on 3x5 index card sized paper.

Recommendations: Greenville should develop and implement a Sewer Mapping and System Inventory Program that will ensure that a sewer system inventory exists, is updated, and cataloged. Greenville has not placed its WCTS inventory into GIS, or

other holistic mapping program. Greenville should establish goals and schedules to enter this information into GIS or other mapping program by a certain date.

5. Information Management System

Greenville has a One Call complaint phone number as well as a water/sewer complaint phone number. If a complaint is received during normal work hours (i.e. 8am-5pm for the One Call number and 7am-4pm for the water/sewer number, Monday – Friday), the information is entered immediately into a database, a work order is created and a response crew is dispatched. If a complaint is received after hours, it is forwarded to the WWTP, the on-call crew is called for response and the complaint and resolution of the complaint is not entered into the database until the next business day. The City had started using a new complaint/work order database about 60 days prior to this inspection and an electronic copy of the old database was provided to EPA.

Recommendation: Greenville should use its new database to shift resources from a reactive maintenance approach to a preventative and eventually, a predictive maintenance approach. The database should be used to prioritize sewer inspection/assessment activities, as well.

6. Financial Analysis Program
   a. Operations & Maintenance Budget Program
   b. Capital Improvement Budget Program, and
   c. Customer Rate Setting Analysis Program

Greenville employees stated that they are budgeted a set amount of capital improvement money each year for the WCTS and must do as much rehabilitation as possible with that amount ($120,000/year for outside contract repairs). According to Greenville employees, there are 590 sewer line repairs known and the City gets $160,000 - $170,000 per year to rehabilitate those defects. Greenville does any point repairs at 6 foot depth or less with City staff and equipment (any repairs deeper than 6' are contracted out). There is no plan to rehabilitate the entire WCTS and any capital improvements are generally spent under reactionary circumstances. The O&M budget and customer rate setting were not specifically discussed.

Recommendations: Greenville should develop and implement a program to analyze and recommend customer rates every year to secure sufficient funds to satisfy all the capital improvement and operation and maintenance financial needs.

7. Equipment, Tools & Inventory Management Program

This program was not specifically discussed during the inspection. However, Greenville has only two (2) portable generators (a 10kW and a 100 kW) and no

portable pumps. Greenville does not have enough or large enough portable generators and/or portable pumps available for the number and size of pump stations the City owns. In addition, Greenville owns two (2) combination jet/vacuum trucks, but only one is dedicated to water & sewer.

Recommendations: Greenville should develop and implement an Equipment, Tools and Inventory Management Program. Specifically, this program should address equipment, tools and other items (e.g. spare pipe or pump parts) needed to address SSOs due to power outages, pump failures (mechanical), and line breaks.

8. Customer Service Programs

   a. Customer Complaints

   As discussed above, Greenville has two customer complaint phone numbers for normal business hours and those phone numbers are routed to the WWTP for after-hours complaint calls.

   Recommendation: Greenville should use the complaint database to inform the public of rehabilitation needs and prioritize WCTS assessment and rehabilitation work.

   b. Public Education Program

   Greenville's Fats, Oils and Grease (FOG) compliance/enforcement program is run by the City's Permits Division. No details were provided about the Permits Division's FOG public education program (e.g. residential grease management, food disposal practices, flyers, bill inserts, public event outreach, materials to encourage proper FOG disposal, etc.). EPA and Greenville did not specifically discuss public education related to other sewer issues (e.g. maintenance or rehabilitation needs requiring increased customer rates, problems caused by illegal sewer connections, etc.).

   Recommendations: Greenville should develop and implement a written, formal public education program to educate the public about FOG management, food disposal, illegal connections, and the need for increased customer rates due to maintenance or rehabilitation work needed.

9. Legal Support Programs

   a. Inter-Jurisdictional Agreement Program

   Greenville has no publically owned satellite systems. Therefore, at this time, there is no need for a formal inter-jurisdictional agreement.

   b. Ordinance Program

EPA and Greenville did not discuss the City's Sewer Use Ordinance (SUO). However, EPA found the City's SUO online at the following website.

http://www.municode.com/library/MS/Greenville

Recommendation: Greenville should review, evaluate and revise its SUO for items such as FOG control, pretreatment requirements, and any sewer design criteria.

c. Pretreatment Legal Support Program

The State of Mississippi is the Control Authority for purposes of the pretreatment program. However, Greenville, if it has not already, should consider establishing local limits per EPA's *Local Limits Development Guidance* (EPA 833-R-04-002 A/B, July 2004) to protect its POTW system and notify MDEQ what the resulting local limits are.

d. Grease Control Legal Support Program

The City's online SUO outlines a limit of 100 mg/L for fats, wax, oil & grease (Part II, Chapter 7, Article III., Division 3, Section 7-144.(2) of Greenville's online ordinances), as well as the requirement of a grease trap/interceptor for certain sewer use customers (Part II, Chapter 7, Article III., Division 3, Section 7-146. of the online ordinances). According to Part II, Chapter 3, Article III, Division 1, Section 3-46. of the online version of Greenville's ordinances, the City has adopted the International Plumbing Code, 2003 edition, as its plumbing code. Finally, the SUO outlines penalties for violations of the SUO (Part II, Chapter 7, Article III., Division 3, Section 7-152).

e. Service Laterals Legal Support Program

EPA did not specifically ask about this Program in the §308 information request letter, and the only requirements on service laterals in Greenville's online SUO are for new construction/re-development (e.g. a new building using an old building's private lateral).

Recommendation: Greenville should address leaky or defective sewer service laterals and Greenville's authority in requiring remediation of defective private service laterals in its SUO.

f. Septic Tank Haulers Legal Support Program

EPA did not specifically ask about this Program in the §308 information request letter or during its inspection. EPA did not find any requirements for hauled waste

(e.g. require a waste hauler permit; getting approval to dump wastes; outlining specific locations to dump wastes, etc.) in Greenville's online ordinances.

Recommendation: Greenville should address septic tank haulers and other wastes hauled for disposal in its sewer use ordinance.

g. "Call Before You Dig" Legal Support Program
EPA did not specifically ask about this Program in the §308 information request letter or during its inspection. According to Greenville's customer complaint database, there have been several SSOs attributed to contractors as well.

Recommendations: Greenville should review, evaluate and revise its "Call Before You Dig" Legal Support Program.

10. Water Quality Monitoring

a. Impact Monitoring Program

Greenville does not take or analyze water quality samples to assess impacts on waters of the United States after an SSO event.

Recommendations: Greenville should establish a specific threshold on when to assess the impact of pollution due to a specific SSO from the sewer system. This program should also include mechanisms to collect the data and transmit the information to the regulatory agency (MDEQ). Additionally, it should include established sampling parameters, standard sampling procedures, and quality assurance/quality control procedures.

11. Pump Station Operation Program

Greenville does not have a formal, written Pump Station Operation Program. According to Greenville staff, the pump station crews check the pump stations daily (Monday – Friday). However, given that Greenville does not have either a bypass pump (for mechanical problems) or a portable generator (for electrical problems) large enough to power its estimated 10-12 largest lift/pump stations, Greenville will not be able to react quickly enough in instances of mechanical or electrical failures to prevent SSOs, including unpermitted discharges.

Recommendations: Greenville should develop and implement a formal, written Pump Station Operation Program that includes equipment to react to either mechanical or electrical failures at its pump stations. The PSOP should address either purchasing of on-site electrical generators or portable generators large enough to power Greenville's largest pump stations. In addition, Greenville should investigate the purchase of bypass pump(s) large enough to pump flows expected at its largest pump stations in the case of mechanical failures.

12. Corrosion Control Program

Greenville has experienced several sewer line breaks in the past, including but not limited to, a 10 million gallon SSO at the WWTP (Jan. 2010) and a 3 million gallon SSO when the 30" force main ruptured along South Theobald Street (May 2011). While neither SSO was directly attributed to corrosion by Greenville employees during this inspection, EPA believes this may be the beginning signs of further deterioration and/or corrosion of the City's WCTS. In addition, EPA noted signs of corrosion in other areas of Greenville's WCTS. *See attached photos for evidence.*

Recommendations: Greenville should establish a Corrosion Control Program that includes an inspection program for infrastructure that is or is suspected to be subject to corrosion problems. Additionally, this program should develop and implement site-specific corrosion control measures, a monitoring program to evaluate the corrosion control measures, and performance measures to assess how well the program is being implemented. This program should also incorporate standard communication procedures between the sewer operations staff and pretreatment control staff to initiate investigation and prevention steps where adverse effects on the system are occurring, or could occur, from industrial user discharges.

13. Fats, Oils, and Grease Control Program

Greenville does not have a formal, written Fats, Oils and Grease (FOG) Control Program. While Greenville has a numeric limitation of the discharge of FOG in its SUO, it appears to only apply to commercial or industrial sources of FOG. During the inspection, EPA observed large grease quantities in several pump station wet wells in residential areas, as well as in pump station wet wells that served commercial/industrial areas. *See attached photos for evidence.*

Recommendations: FOG can and has caused blockages in Greenville's WCTS. Additionally, FOG could increase operation and maintenance work due to increased blockages and sewer cleaning requirements. Greenville should review, update, revise and continue to implement its FOG Ordinance, as well as begin more public education and outreach about the true costs of dealing with FOG.

In addition, many municipal utilities attribute SSOs to grease, when the true cause of the blockage is different. For example, grease may not block a sewer unless there are roots, offset joints and/or other sewer defects that cause the grease to accumulate. Therefore, Greenville should investigate the underlying causes of the SSOs more thoroughly, develop and implement a Sanitary Sewer Evaluation System (SSES) and Rehabilitation Program and institute a system-wide preventative cleaning program.

14. Pump Station Preventative Maintenance Program

Greenville does not have a formal, written Pump Station Preventative Maintenance Program. While Greenville's sewer crews conduct a daily drive-by of all the pump

stations (Monday – Friday), there is no preventative maintenance conducted on the pump stations. As the City does not own enough or large enough portable generators (for electrical issues) or bypass pumps (for mechanical issues), Greenville is only beginning to experience the costs of years of reactive maintenance of its numerous pump stations.

Recommendation: Given the number, age and size of the City's pump stations, Greenville must move from an informal, reactive maintenance program to a more formal, preventative maintenance program for its pump stations.

15. Force Main Preventative Maintenance Program

Greenville does not have a formal, written Force Main Preventative Maintenance Program. No mention of preventative maintenance was mentioned during the inspection.

Recommendation: Given the number, size, location and age of Greenville's force mains, Greenville must move from no force main preventative maintenance to a formal, written preventative maintenance program for its force mains.

16. Gravity Line Preventative Maintenance Program
    a. Routine Hydraulic Cleaning Program and
    b. Routine Mechanical Cleaning Program

Greenville does not have a formal, written Gravity Line Preventative Maintenance Program. The Public Works Department owns 2 combination jet/vacuum trucks: one is dedicated to Water and Sewer; the other is dedicated to the Streets Department. No mention was made of mechanical cleaning equipment. According to Greenville employees, approximately 90% of the water/sewer combination truck's work is response to trouble calls.

Recommendations: Greenville should develop and implement a formal, written Gravity Line Preventative Maintenance Program that accurately determines cleaning needs, establishes priorities, and schedules cleaning activities. This program should have adequate staff and necessary equipment. Additionally, this program should have written standard cleaning procedures, standard forms, performance measurements, and a mechanism to collect this data. Finally, this program should encompass the entire WCTS, while also addressing cleaning "hot spots."

c. Root Control Program

Greenville does not have in place a routine root control program and the response to root problems is a reactionary program rather than an ongoing maintenance

program. According to Greenville employees, the City does have a root cutter and some liquid root killer, but they are not used preventatively.

Recommendations: Greenville should develop a root control program that accurately determines root control needs, establishes priorities, and schedules activities. This program should have adequate staff and the necessary equipment. Additionally, this program should have written standard root control procedures, standard forms, performance measurements, and a mechanism to collect this data.

17. Emergency Response Plan for Sewer System

Greenville does not have a formal, written Emergency Response Plan (ERP) for its Sewer System. Greenville has experienced several emergencies (e.g. Mississippi River flooding in 2011 or the rupture of the 30" sewer main near South Theobald Street in May 2011) where an ERP would be necessary.

Recommendations: Greenville should develop and implement a formal, written Sewer System Emergency Response Plan (a.k.a. Contingency Plan). Specifically, the ERP should address such items as Public Notification, Regulatory Agency Notification, an Emergency Flow Control Program, an Emergency O&M Plan, and finally, Preparedness Training.

C. Greenville WWTP

The Greenville WWTP operates under NPDES Permit No. MS0020184 issued by MDEQ. EPA did not tour the wastewater treatment plant during this inspection.

Greenville has experienced several bypasses of treatment and effluent limit violations of the NPDES permit at the Greenville WWTP.

Recommendations: Greenville should develop and implement a Process Controls Plan. In addition, Greenville should consider conducting a Comprehensive Performance Evaluation (CPE) and Composite Correction Program (CCP) as outlined in EPA's Handbook *Improving POTW Performance Using the Composite Correction Program Approach* (EPA-625/6-84-008; October 1984).

VI. ATTACHMENTS

A. Inspection Photos
B. Attendance Lists

ATTACHMENT A: Inspection Photos

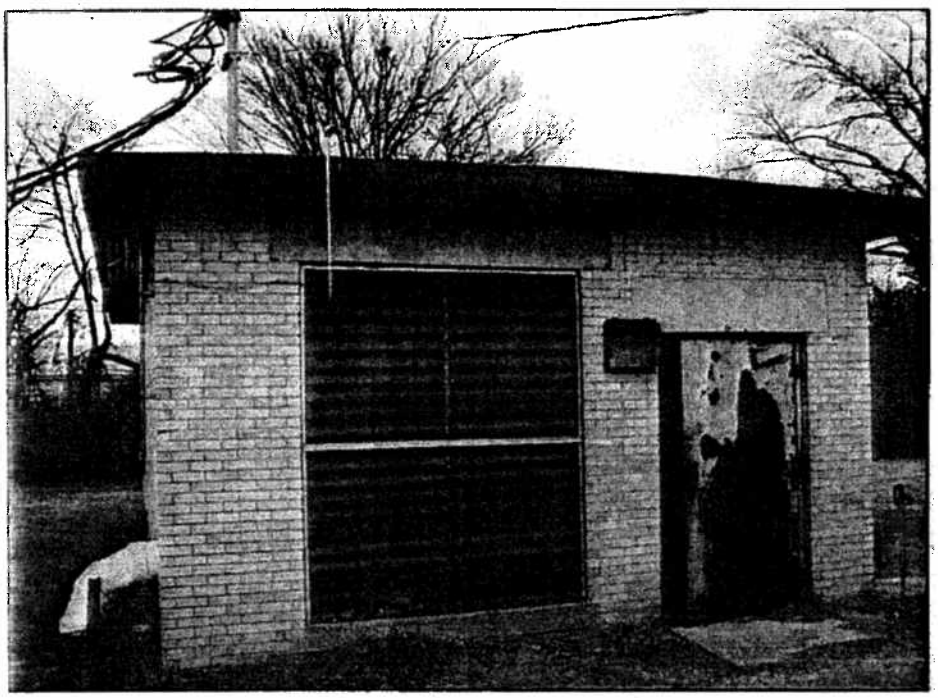

Figure 1. South Theobald pump station pump house.

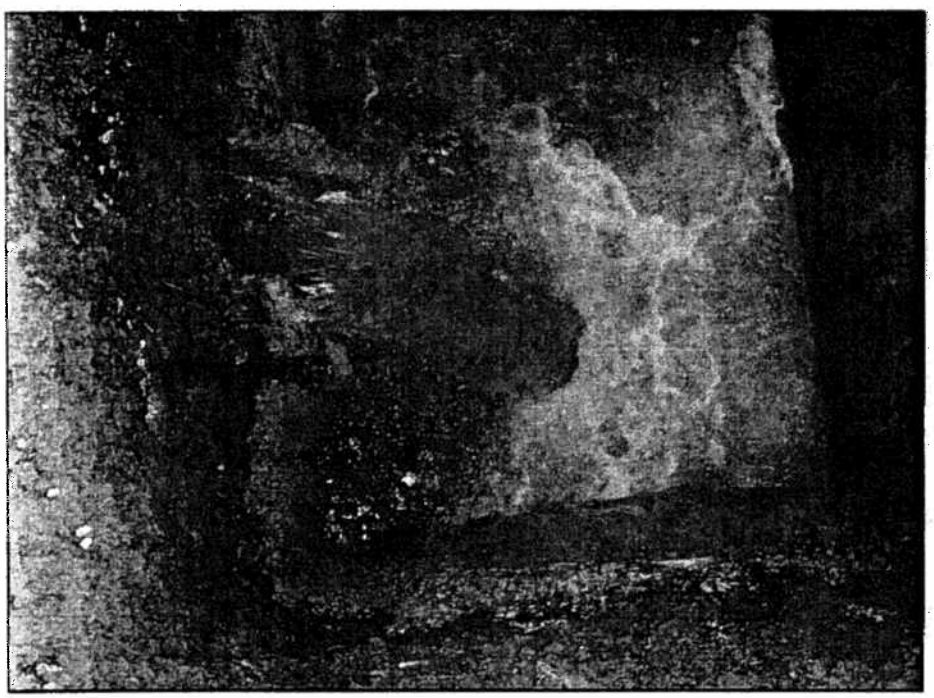

Figure 2. South Theobald pump station wet well (note poor condition of influent pipe).

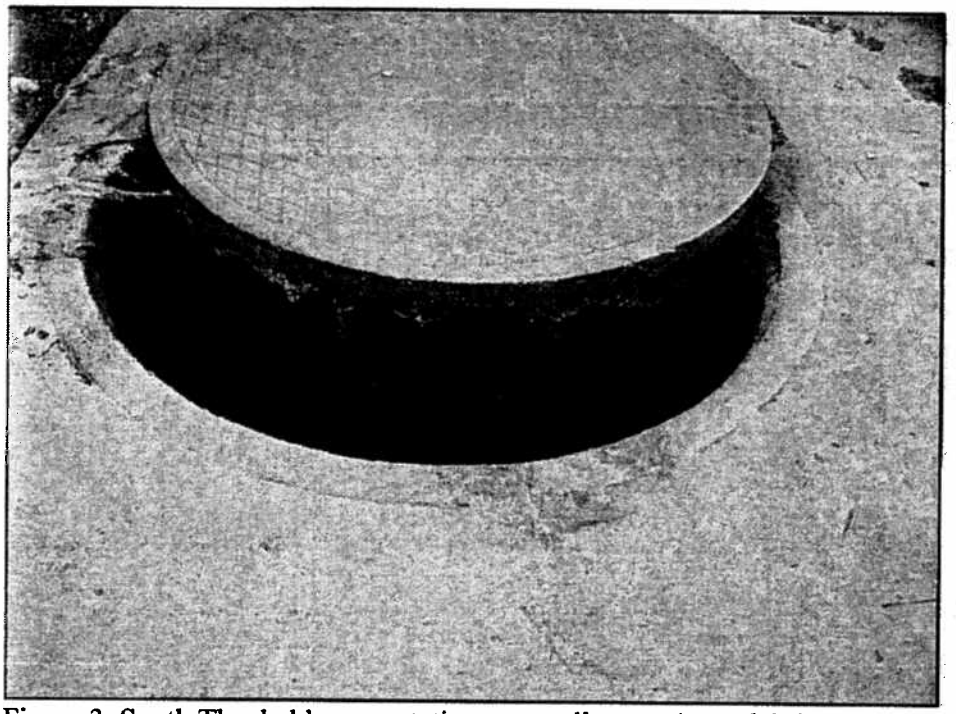

Figure 3. South Theobald pump station wet well cover (note debris on bottom of cover showing debris from recent SSO).

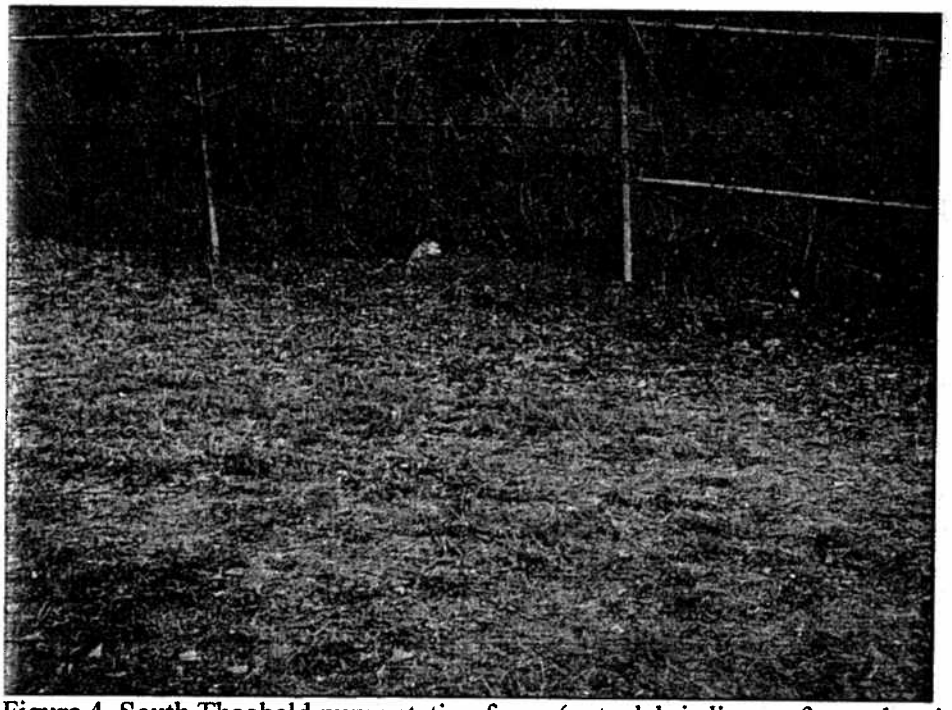

Figure 4. South Theobald pump station fence (note debris line on fence showing height of wastewater during recent SSO). This area drains to a roadside ditch that enters a canal.

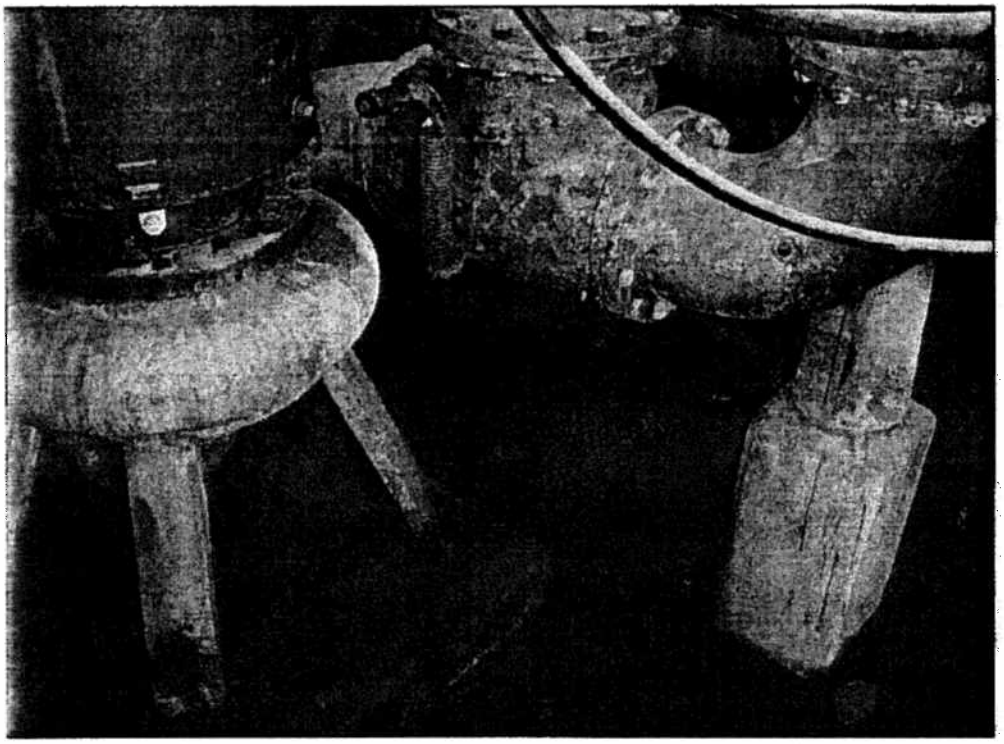

Figure 5. South Theobald pump station dry well (note valve leak on floor causing stain).

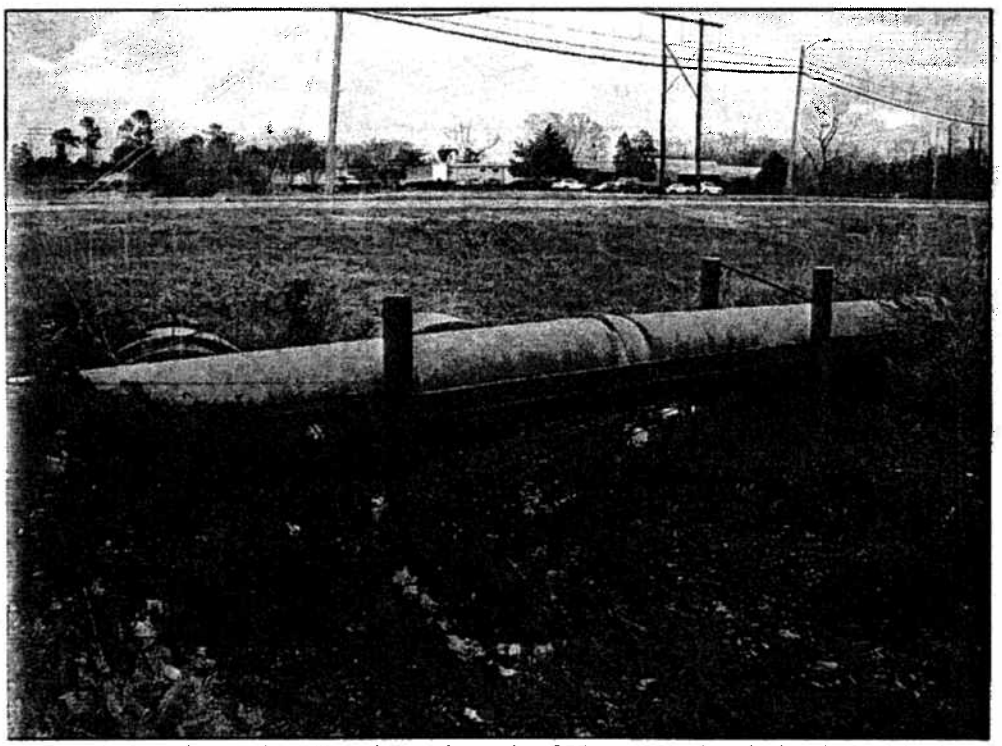

Figure 6. Canal crossing (Reed Road south of Hwy. 82). Steel pipe is inside the concrete pipe.

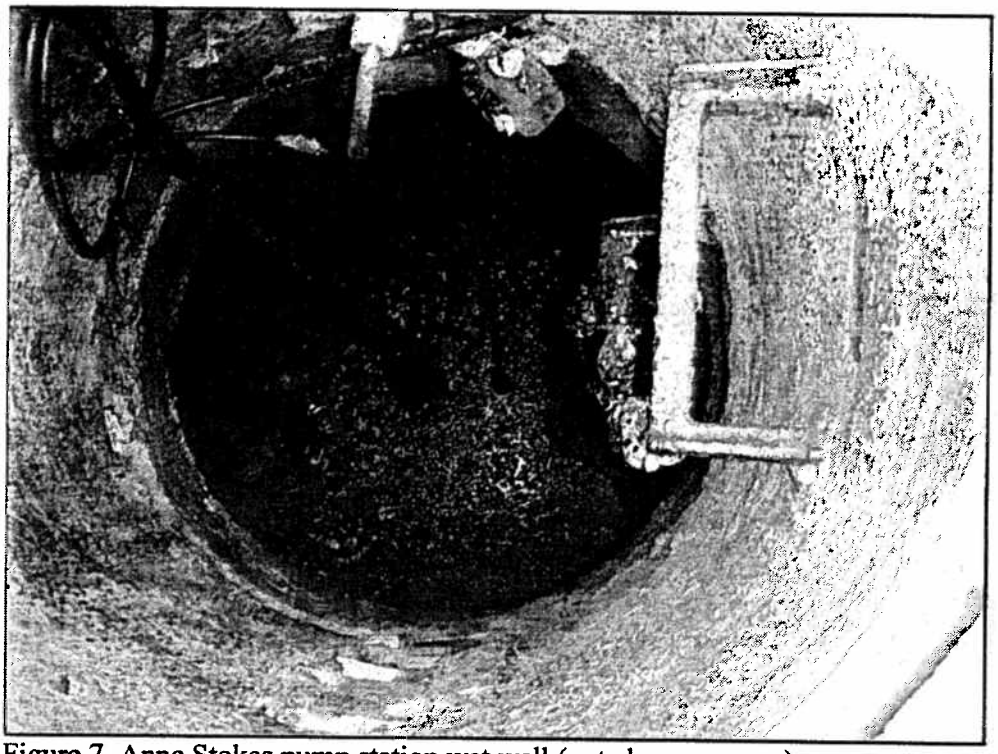

Figure 7. Anne Stokes pump station wet well (note heavy grease).

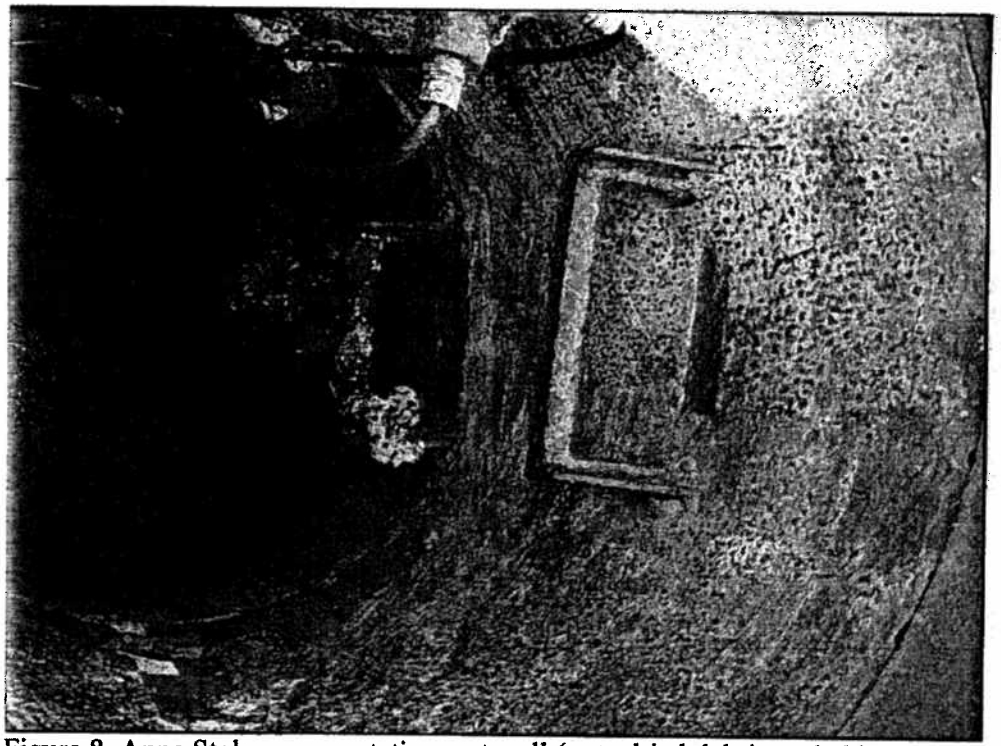

Figure 8. Anne Stokes pump station wet well (note dried debris on ladder rung showing surcharge).

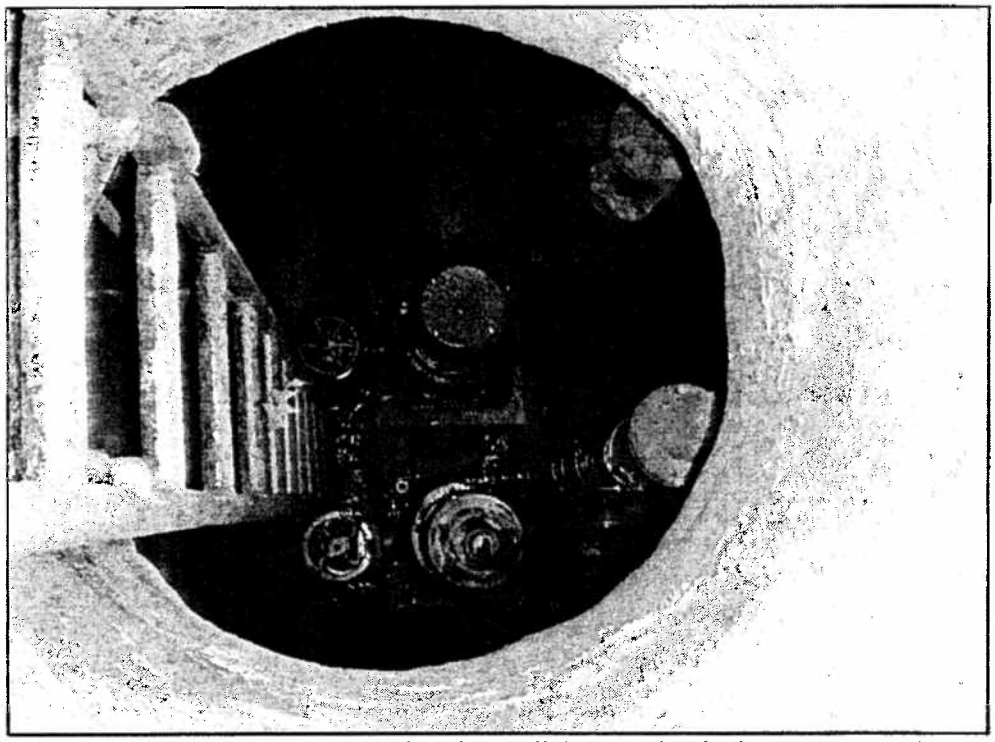

Figure 9. Anne Stokes pump station dry well (note valve leak on one pump).

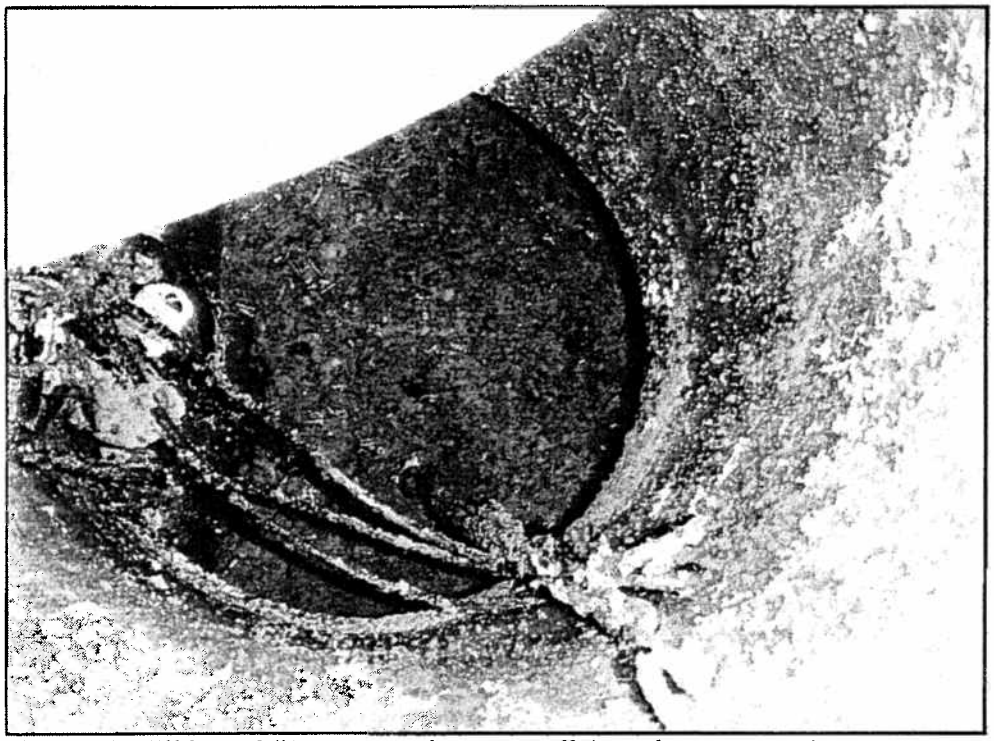

Figure 10. Wildwood #1 pump station wet well (note heavy grease).

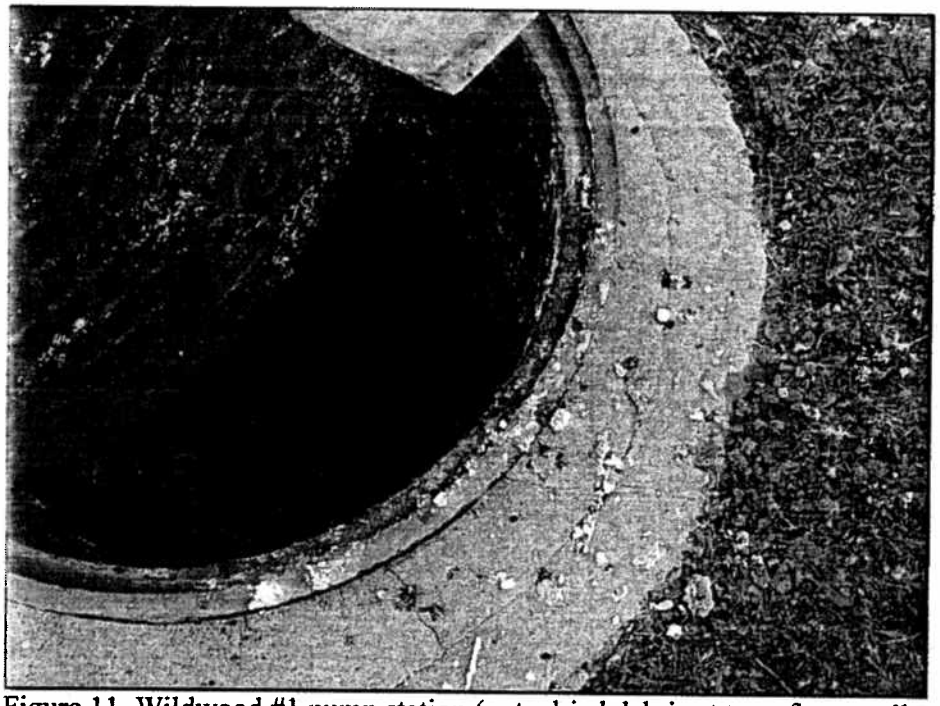

Figure 11. Wildwood #1 pump station (note dried debris at top of wet well and on outside of wet well showing evidence of recent SSO).

Figure 12. Wildwood #1 pump station (wet well on right; dry well on left; note canal in background).

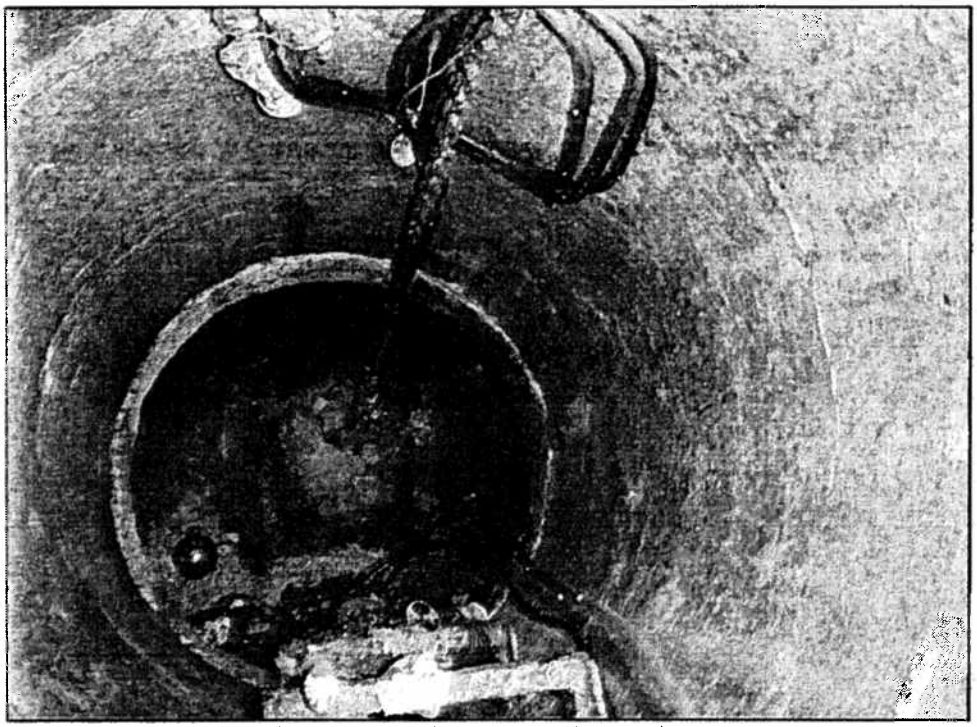

Figure 13. Wildwood #2 pump station wet well (note heavy grease).

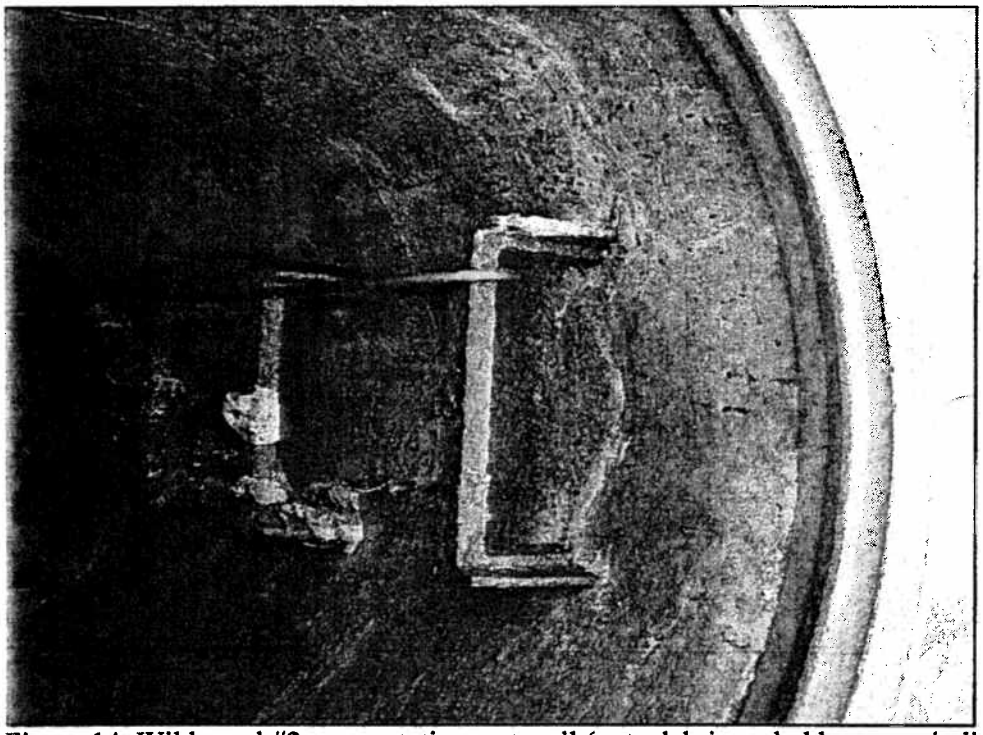

Figure 14. Wildwood #2 pump station wet well (note debris on ladder rungs indicative of surcharge).

Figure 15. Wildwood #2 pump station wet well (note milky white influent from upstream apartment complex, which is indicative of FOG).

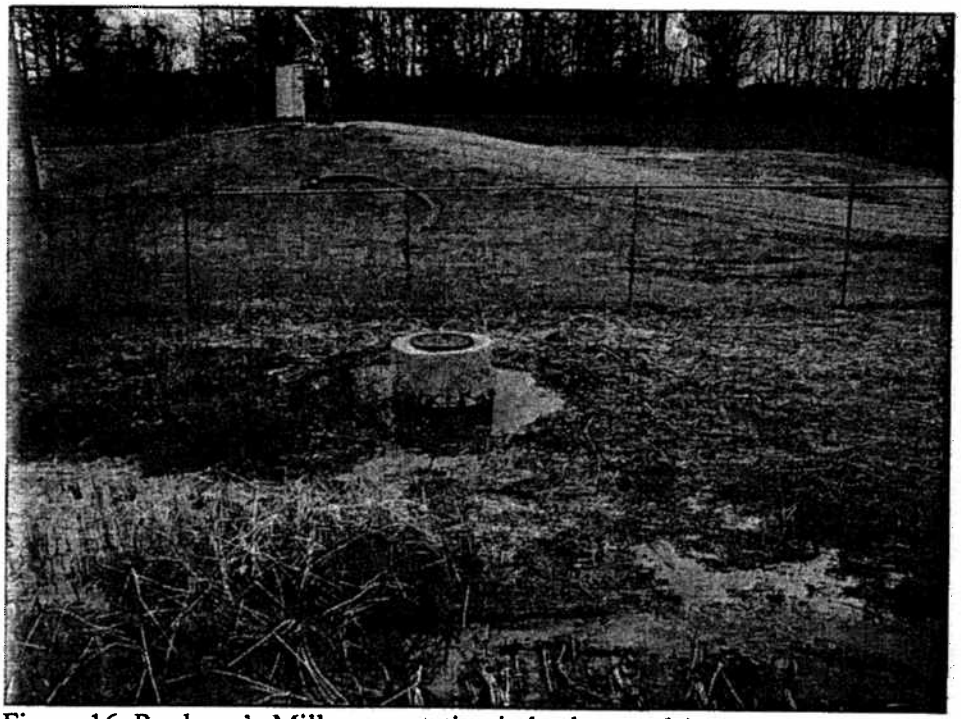

Figure 16. Producer's Mill pump station in background (note upstream manhole in wet area).

Figure 17. Producer's Mill pump station (note bypass hose into force main left connected).

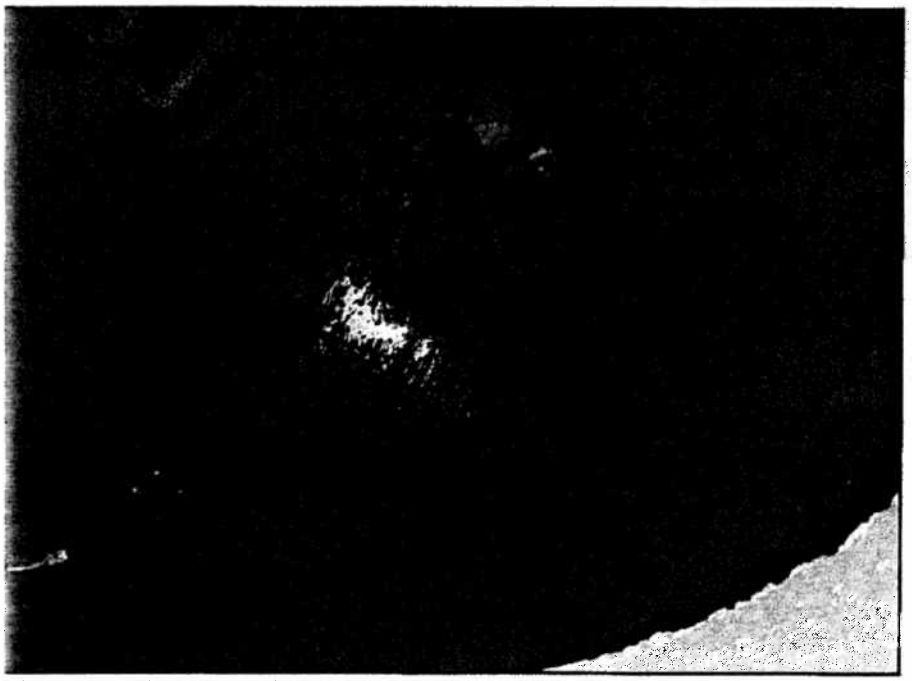

Figure 18. Tennessee Street pump station (note grease, plastics and other debris in wet well).

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS
(40 C.F.R. Part 2)

Except for effluent data, you may, if you desire, assert a business confidentiality claim as to any or all of the information that EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, EPA may make the information available to the public without any further notice to you.

40 C.F.R. §2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4
Water Protection Division
Clean Water Enforcement Branch

COMPLIANCE EVALUATION INSPECTION REPORT

City of Greenville, Mississippi
Greenville, Mississippi
NPDES Permit No. MS0020184

Facility Address:
Highland Plantation Road
Greenville, Mississippi 38127

Inspection Date:
January 29, 2013

Inspectors:
Brad Ammons, Environmental Engineer, EPA Region 4
Dennis Sayre, Environmental Engineer, EPA Region 4
Jamon Rucker, Mississippi Department of Environmental Quality

Inspection Report Prepared by:
Brad Ammons
Dennis Sayre

March 19, 2013

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAY 17 2013

CERTIFIED MAIL 7012 1010 0001 8097 4526
RETURN RECEIPT REQUESTED

City of Fort Oglethorpe
c/o Mr. Phillip Parker
Director of Public Utilities
500 City Hall
Fort Oglethorpe, Georgia 30742

Re: Information Request – Section 308 of the Clean Water Act
Satellite Collection System to Chattanooga, Tennessee

Dear Mr. Parker:

Pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. § 1318, the U.S. Environmental Protection Agency, Region 4 hereby requests the City of Fort Oglethorpe (the City) to provide the information set forth in Enclosure A regarding the City's sanitary sewer system (SSS). The City is required to respond to this information request within 30 days of its receipt of this letter. The response should be directed to:

Ms. Laurie Jones
U.S. Environmental Protection Agency, Region 4
Clean Water Enforcement Branch
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

This request follows the EPA's review of the City's self-assessment checklist dated April 16, 2012, which was completed as part of the City's participation in the Capacity, Management, Operation and Maintenance Program. Several issues were identified in the checklist including, but not limited to, four recurring sanitary sewer overflow (SSO) locations; a policy of not documenting building backups; excessive inflow and infiltration; lack of a sewer cleaning program/schedule; lack of routine pipeline condition assessment and manhole inspection programs; lack of written procedures for internal pipe assessment and for smoke and dye testing; lack of an overflow emergency response plan; lack of emergency operating procedures for each pump station; lack of pump station inspection records; lack of a customer service/public relations program; and a concerning level of SSO occurrences in the past five years. As such, additional follow-up information is being requested related to these issues. The City's response to this information request should specifically reference the particular section and number of the request and should be organized for the purpose of clarity. In addition, all information submitted must be accompanied by the following certification signed by a responsible City official in accordance with 40 C.F.R. § 122.22:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Failure to comply with this information request may result in enforcement proceedings under Section 309 of the CWA, 33 U.S.C. § 1319, which could result in the judicial imposition of civil or criminal penalties or the administrative imposition of civil penalties. In addition, there is potential criminal liability for the falsification of any response to the requested information.

The City shall preserve until further notice all records (either written or electronic), which exist at the time of receipt of this letter and relate to any of the matters set forth in this letter. The term "records" shall be interpreted in the broadest sense to include information of every sort. The response to this information request shall include assurance that these record protection provisions were put in place, as required. No such records shall be disposed of until written authorization is received from the Chief of the Clean Water Enforcement Branch at the U.S. EPA, Region 4.

If you believe that any of the requested information constitutes confidential business information, you may assert a confidentiality claim with respect to such information except for effluent data. Further details, including how to make a business confidentiality claim, are found in Enclosure B.

Also enclosed is a document entitled *U.S. EPA Small Business Resources-Information Sheet,* which may assist you in understanding the compliance assistance resources and tools available. However, any decision to seek compliance assistance at this time does not relieve the City of its obligations to the EPA or the State of Georgia, does not create any new rights or defenses, and will not affect the EPA's decision to pursue enforcement action.

If you have questions regarding this notice and information request, please contact Ms. Laurie Jones at (404) 562-9201 or by email at jones.laurie@epa.gov.

Sincerely,

Denisse D. Diaz, Chief
Clean Water Enforcement Branch
Water Protection Division

Enclosures

cc: Ms. Linda MacGregor
Georgia Environmental Protection Division

ENCLOSURE A

SSO PROGRAM
CITY OF FORT OGLETHORPE

1. Provide the following:

   a. A list of the pump stations in the sanitary sewer system (SSS), including size (gpm), and indicate if back up power is available and if it is adequate to fully operate the pump station; and
   b. A list of all constructed overflow points (any unpermitted constructed discharge points) in the SSS (including pump stations).

2. For purposes of this Information Request, a sanitary sewer overflow (SSO) is an overflow, spill, release, or diversion of wastewater from the SSS. SSOs include overflows or releases of wastewater that reach waters of the United States (U.S.); overflows or releases of wastewater that do not reach waters of the U.S.; and wastewater backups into buildings that are caused by blockages or flow conditions in a sanitary sewer other than a building lateral. Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned is not an SSO.

   Provide a listing of all SSOs that occurred from May 2008 to the present. For each SSO provide the following:

   a. Date(s) of the SSO;
   b. Time (and Date if other than a. above) when the City was notified that the SSO event occurred;
   c. Time (and Date if other than a. above) when the City (or contractor) crew responded to the SSO;
   d. Time (and Date if other than a. above) when the SSO ceased;
   e. Time (and Date if other than a. above) when corrective action was completed;
   f. Location of the SSO, including source (pump station, manhole, etc.);
   g. Ultimate destination of the SSO, such as surface waterbody (by name, if available), storm drain leading to surface waterbody (by name, if available), dry land, building, etc.;
   h. Volume of the SSO;
   i. Cause of the SSO such as grease, roots, other blockages, wet weather (infiltration and inflow), loss of power at pump station, pump failure, etc.;
   j. Corrective actions taken to stop the SSO;
   k. Corrective actions taken to prevent this or similar SSOs in the future; and
   l. Date that notice of the SSO was given to the State of Georgia, if applicable.

   If available, please provide the above information in a Microsoft compatible spreadsheet format.

3. If the City has a formal written plan for responding to, addressing, and reporting SSOs (i.e., a Sewer Overflow Response Plan ("SORP")), provide a copy of the plan.

4. Provide a copy of any additional City procedures not included in the SORP (as referenced in Question 3 above) for the following activities:

a. Documenting SSOs;
b. Estimating SSO volume;
c. Identifying root causes of SSOs;
d. Containment and clean-up of SSOs, including any specific procedures addressing backups into buildings caused by mainline problems;
e. Identifying wet weather related SSOs and reconnaissance of these during rain events; and
f. All reporting of SSOs to the permitting authority, the State of Georgia.

5. Provide the name of the person (or position title) responsible for each of the activities indentified in the City's SORP and/or listed in Question 4 above.

6. In reference to the issues identified during the CMOM self-assessment review, which are listed in the second paragraph of the cover letter, please provide any procedural documentation and/or programmatic policies used during this assessment.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS
(40 C.F.R. Part 2)

Except for effluent data, you may, if you desire, assert a business confidentiality claim as to any or all of the information that EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, EPA may make the information available to the public without any further notice to you.

40 C.F.R. §2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAY 0 8 2013

CERTIFIED MAIL 7012 1010 0001 8097 4298
RETURN RECEIPT REQUESTED

City of Durham
Attn: Mr. Tom Lucas
Superintendent, Water and Sewer Maintenance Division
1100 Martin Luther King Jr. Parkway
Durham, North Carolina 27707

Re: U.S. Environmental Protection Agency and North Carolina Department of Environment and Natural Resources Compliance Evaluation Inspection
Notice of Opportunity to Show Cause
National Pollutant Discharge Elimination System Permit Nos.:
NC0023841, NC0047597
Durham North Wastewater Treatment Plant and South Wastewater Treatment Plant

Dear Mr. Lucas:

On August 5, 2011, the U.S. Environmental Protection Agency, Region 4 sent an Information Request Letter pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. § 1318, to the City of Durham (the City) requesting information related to Sanitary Sewer Overflows (SSOs) from the sewer system. On October 23 – 25, 2012, the EPA and the North Carolina Department of Environment and Natural Resources (NCDENR) conducted a Compliance Evaluation Inspection (CEI) of the City's Wastewater Collection and Transmission System (WCTS) associated with the Durham North Wastewater Treatment Plant (WWTP) and South WWTP owned and operated by the City. The inspection results are summarized in the enclosed CEI report. As a result of the City's response to the Information Request Letter and the information gathered pursuant to the aforementioned on-site inspections, the EPA has concluded that the City is in violation of the CWA and or the City's National Pollutant Discharge Elimination System Permit (NPDES) permit, including the following violations:

1. The City has allowed at least 249 SSOs to occur from April 2008 through April 2013, totaling at least 1,614,657 gallons of untreated sewage that discharged from the City's WCTS. At least 241 of those SSOs were reported to have directly or indirectly affected waters of the U.S. in violation of the CWA and/or in violation of Parts II.B.2 (Duty to Mitigate) and II.C.2 (Proper Operation, Maintenance and Replacement) of the City's NPDES permits, issued to the City by NCDENR.

2. The City has failed to adequately operate and maintain the pump stations as required by Parts II.B.2 and II.C.2 of the City's NPDES permits.

Such violations are subject to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. This Section provides for the issuance of compliance orders, administrative actions to assess penalties and/or the initiation of civil or criminal actions. Therefore, this Agency requests that representatives of the City be present in this office to show cause of why the EPA should not take formal enforcement action against the City in connection with the violations listed above, including the assessment of appropriate civil penalties. In lieu of appearing in the EPA's offices for this meeting, a telephone conference may be scheduled. The representatives should be prepared to provide all relevant information with documentation, pertaining to the above violations including, but not limited to, any financial information, which may reflect your ability to pay a penalty. You have the right to be represented by legal counsel. The EPA may consider information provided during the meeting or telephone conference in any enforcement proceeding related to this matter.

Please contact Ms. Sara Schiff, of my staff, at (404) 562-9870 or via email at Schiff.Sara@epa.gov within seven days to confirm your receipt of this letter and to set up a date and time for the meeting. If you have any questions regarding this matter, please contact Ms. Schiff.

Sincerely,

James D. Giattina
Director
Water Protection Division

Enclosures

cc: Mr. Jeff Poupart
North Carolina Department of Environmental and Natural Resources

Ms. Deborah Gore
North Carolina Department of Environmental and Natural Resources

U.S. Environmental Protection Agency
Office of Compliance and Enforcement
1200 Pennsylvania Avenue, NW
Washington, DC 20460

U.S. Environmental Protection Agency, Region 4
61 Forsyth St SW
Atlanta, GA 30303

SANITARY SEWER SYSTEM COMPLIANCE INSPECTION

CITY OF DURHAM, NORTH CAROLINA

INSPECTION REPORT

Inspection Dates:

October 23 - 25, 2012

Report Date: April 23, 2013

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TABLE OF CONTENTS

LIST OF APPENDICES

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I. INTRODUCTION

On October 23-25, 2012 the U.S. Environmental Protection Agency (EPA) with assistance from PG Environmental, LLC (PG), a U.S. EPA contractor, inspected the City of Durham's (City) wastewater collection system. The EPA Inspection Team evaluated the City's compliance as it relates to the operation and maintenance (O&M) of the City's collection system, as well as the City's sanitary sewer overflow (SSO) reporting procedures. The compliance inspection consisted of the following major activities:

- Discussions with representatives from the City regarding the O&M of the collection system and wastewater treatment plants (WWTP), reporting procedures, collection system plans and manuals, and capital improvement program.
- Observation of the collection system maintenance crew activities.
- A physical inspection of the City's collection system assets.
- Examination of the City's collection system operations, maintenance, and reporting records.

The City provides sewage collection for the City of Durham through 1,067 miles of gravity sanitary sewer lines. There are no combined sewer areas in the collection system. The collection system includes 61 lift stations, and 57 miles of force mains. The collection system is composed of three service areas which discharge to the North Durham WWTP, South Durham WWTP, and the Triangle WWTP. The North Durham and South Durham WWTPs are owned and operated by the City. The Triangle WWTP is owned and operated by Durham County.

The North Durham WWTP and the South Durham WWTP are regulated under two separate National Pollutant Discharge Elimination System (NPDES) Permits (NPDES Permits). The North Durham WWTP is regulated under NPDES Permit NC0023841, and the South Durham WWTP is regulated under NPDES Permit NC0047597. In addition to these permits, the City's collection system is also regulated under the North Carolina Department of Environment and Natural Resource (NCDENR) System-Wide Wastewater Collection System Permit WQCS0005 (Collection System Permit).

This report summarizes the results of the inspection. The following personnel were involved in the inspection of the City's collection system:

City of Durham Representatives:	Don Greeley, Director
	Martin Nona, Assistant Director
	Reginald Hicks, Regulatory Compliance Superintendent
	Jim Harding, System Rehabilitation Supervisor
	Bob Gasper, Engineer
	Clif Tillman, Lift Station Supervisor
	John Dodson, Plant Superintendent
	Charles Cocker, Plant Superintendent
	Chris Hollifield, Plant Maintenance Superintendent

	Bob Slaughter, Plant Maintenance Assistant Superintendent
EPA Inspection Team:	Brad Ammons, EPA Region 4
	Dennis Sayre, EPA Region 4
	Richard Elliott, EPA Region 4
	Bill Simpson, EPA Region 4
	Cornell Gayle, EPA Region 4
	Sara Schiff, EPA Region 4
	Danny O'Connell, PG Environmental, LLC
	Pieter Beyer, PG Environmental, LLC
NC DENR:	Deborah Gore, Pretreatment, Emergency Response and Collection System Unit Supervisor
	Michael Legett, Pretreatment, Emergency Response and Collection System Unit Engineer

II. MAJOR OBSERVATIONS

A. Maintenance of Collection System

The responsibility for maintaining the City's collection system is divided into three different departments within the City's Water and Sewer Maintenance Division: the Sewer Rehabilitation Department, the Mainline Repair Department, and the Outfall Department. The O&M of the North and South Durham WWTPs as well as the City's 61 lift stations has been assigned to the Plant Engineering and Maintenance Division.

Sewer Rehabilitation Department

The Sewer Rehabilitation Department handles the bulk of the activities associated with operating and maintaining the sewer mains. It is responsible for cleaning sewer mains, inspecting sewer mains using closed circuit television (CCTV) equipment, and responding to customer complaints or other collection system emergencies not associated with failures of the City's lift stations.

The Sewer Rehabilitation Department maintains a fleet of five combination jetter/vactor trucks; however, the City currently only employs three teams to operate these trucks. Therefore two of the combination jetter/vactor trucks are currently not in use. The City Sewer Rehabilitation Department also operates three CCTV trucks that are used to visually inspect the sewer mains. The CCTV crews have been trained on the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program.

Responding to customer complaints and collection system emergencies is handled by two quick response teams which use small jetter-only trucks. The City currently employs two such quick response teams, one

for northern Durham, and one for southern Durham. The quick response teams work a 7 a.m. to 4 p.m. shift; however, the two crews are on call outside of these times to respond to complaints or emergencies.

The activities conducted by the Sewer Rehabilitation Department are managed and tracked using the Cityworks computerized maintenance management system (CMMS). For a detailed discussion on the City's implementation of the Cityworks system please refer to the Customer Complaints section of this report.

Mainline Repair Department

The Mainline Repair Department performs basic structural repairs on the collection system. This includes point repairs and patching using 2-foot and 4-foot cured-in-place liners. The City has two cured-in-place patch repair crews which perform approximately 40 patches per month (see Figure 1). The City has estimated that it will perform approximately 600 patches in 2012.

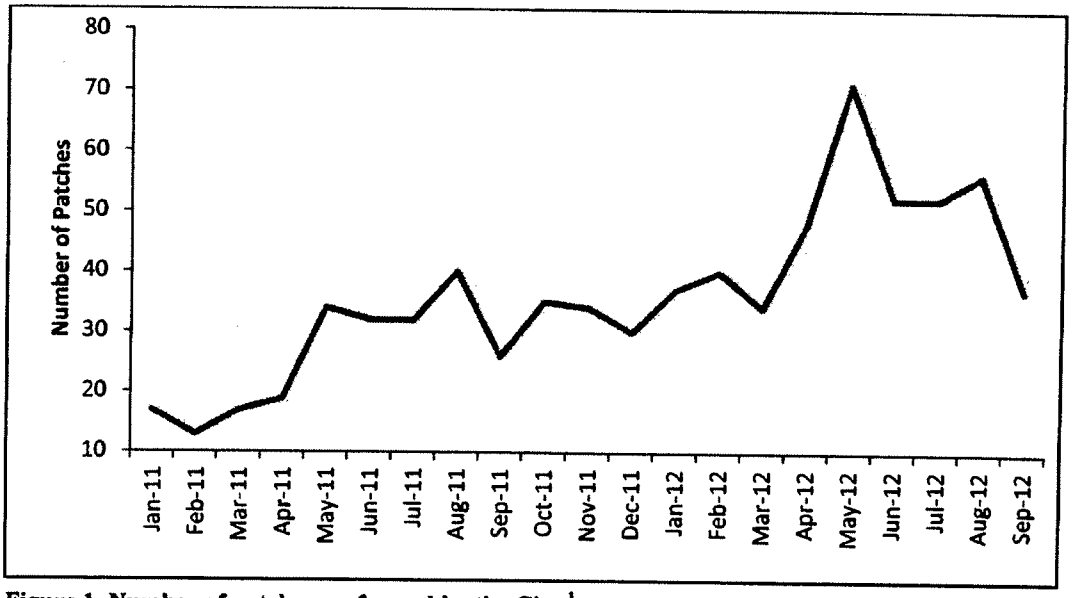

Figure 1. Number of patches performed by the City.[1]

Outfall Department

The Outfall Department performs actions similar to those of the Sewer Rehabilitation Department, except that it does so for what the City has identified as its outfall lines. The City defines an outfall sewer line as any sewer line which is outside of the right of way of a roadway. This includes City sewers which traverse private property, run along rivers, or require other specialized sewer equipment such as a tracked-cart easement jetter.

[1] Figure provided by City during inspection

B. Collection System Cleaning

Part II.8 of the Collection System Permit requires the City to clean at least 10 percent of the collection system each year. The goal of the City's Sewer Rehabilitation Department is to clean one percent of the system each month for an annual goal of 12 percent of the system. The data provided by the City, shown in Figure 2 below, indicates that the Sewer Rehabilitation Department has been able to reach this goal for the past year.

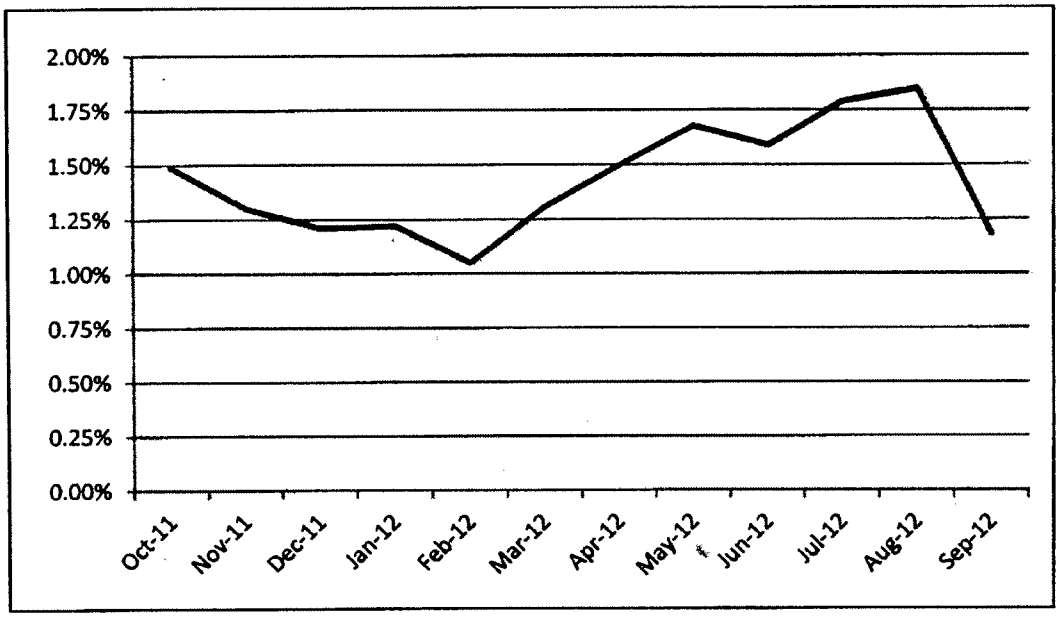

Figure 2. Percent of sewer system cleaned by City of Durham staff.

In addition to this, the City has also set a goal to inspect 10 percent of the collection system annually using CCTV equipment. The inspection program started in 2006 in the downtown Durham area and has continued in a spiral pattern from there. This pattern will be followed until all of the collection system has been inspected in 2016. After the full collection system has been inspected, the City plans on continuing the inspection program using a similar spiral approach starting in downtown Durham. A schematic of the sewer basins which have been inspected has been included as Figure 3 on the following page.

The EPA Inspection Team also inquired whether the City had established a problem area or hot-spot cleaning program. The City stated that there currently is no formal hot-spot cleaning program, but rather that the Sewer Rehabilitation Department staff used institutional knowledge to direct cleaning activities for problem areas.

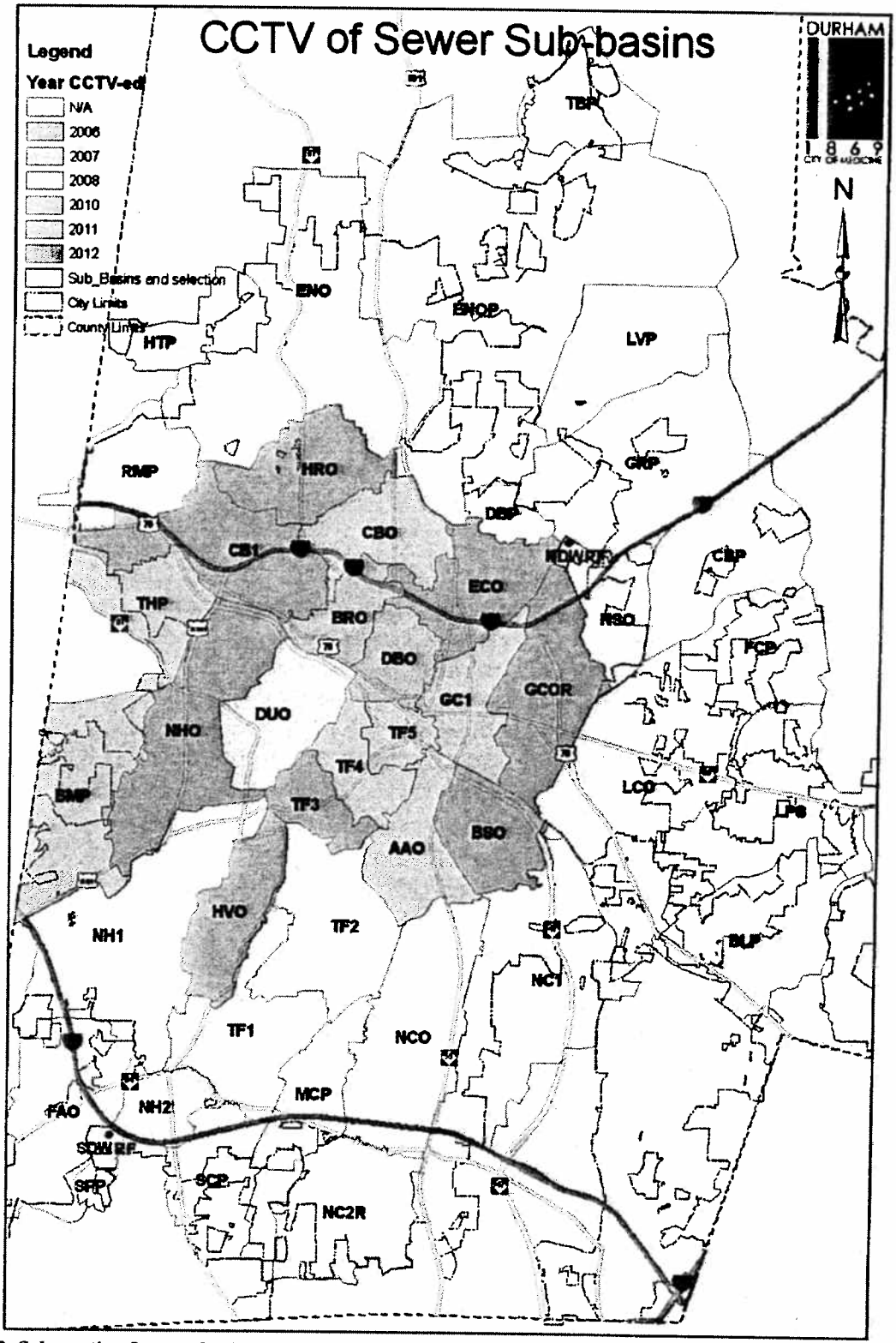

Figure 3. Schematic of sewer basins inspected by City at time of inspection.

C. Customer Complaints

Customer complaints are received at a central call center, Durham One Call, which handles complaints for all of the City's departments. Durham One Call enters the complaint details into Cityworks, assigns the complaint a service request number, and forwards the complaint to the appropriate department. Durham One Call uses a script generated by the Public Works Department to determine whether the complaint is a sewer problem, and identifies each sewer complaint using one of the following problem codes:

- Backups
- Broken/missing cover
- Channel/ditch maintenance
- Cleanout plug
- Drain/flood problem
- Driveway work
- Easement clearing
- Manhole cover off
- Manhole dumping
- Manhole overflowing
- Miscellaneous sewer
- Repair potholes
- Sewer odor
- Sewer overflow
- Sinkhole/cave in
- Storm drain maintenance
- Valve leaking

Complaints for the collection system are forwarded to the Public Works Operations Center where a water and sewer maintenance dispatcher reviews the problem code and assigns the service request to the appropriate work crew. For complaints of sewer backups or overflows, the dispatcher radios one of the two quick response teams (depending on the location of the complaint), and provides them with the location and nature of the complaint. After responding to the complaint, the quick response team fills out a hardcopy "Rodding Report" (See Appendix B) and updates the service request in the Cityworks system using a laptop that is stored in the quick response truck.

In 2011 the City received 1,537 complaints regarding the collection system. As shown in Table 1, approximately 68 percent of these complaints were for backups into buildings.

Table 1. Summary of Complaints Received by the City in 2011

Problem Code	Count	Percent of Total
Backups	1050	68.3%
Miscellaneous sewer	156	10.1%
Manhole cover off	109	7.1%
Sewer odor	101	6.6%
Manhole overflowing	63	4.1%
Easement clearing	23	1.5%
Cleanout plug	12	0.8%
Sinkhole/cave in	9	0.6%
Sewer overflow	4	0.3%
Storm drain maintenance	3	0.2%
Drain/flood problem	2	0.1%

Problem Code	Count	Percent of Total
Broken/missing cover	1	0.1%
Channel/ditch maintenance	1	0.1%
Driveway work	1	< 0.1%
Manhole dumping	1	< 0.1%
Valve leaking	1	< 0.1%
Total	1537	100.0%

The Cityworks system currently does not have a specific field to identify whether these backups were the result of a City problem or because of a private sewer lateral issue. To gather more detail on what percentage of the backup and overflow complaints were attributable to problems in the City's collection system, PG conducted a brief review of the Cityworks data for the period from April 10, 2012 to October 25, 2012. PG reviewed the comments provided by the quick response teams regarding the nature and location of the problem causing the backup or overflow. There were 535 complaints logged during the period reviewed, which can be grouped into three broad categories (percentages are approximate):

- 25 percent were found to be the result of a City problem
- 22 percent were identified as private issues.
- 53 percent could not be categorized due to insufficient information.

The high percentage of complaints that could not be categorized was largely due to the limited amount of variables that are recorded by the quick response teams.

D. Collection System Blockages

The collection system experiences a significant number of blockages. Over the past six years, the City has cleared an average of 706 blockages per year. The City has also estimated that 50 to 80 percent of the blockages are caused by fats, oils, and grease (FOG)[2], with root intrusion being the second largest problem. (More information on the FOG program can be found in Part H of this section.) Table 2 provides a summary of the number of blockages that the City has responded to over the past six years.

Table 2. Number of Blockages Cleared by the City[2]

Fiscal Year	Number of Blockages Reported
2010 -2011	700
2009- 2010	775
2008- 2009	695
2007- 2008	606
2006- 2007	725
2005- 2006	735
Average number	706

[2] City of Durham Annual Sanitary Sewer System Reports for FY 2005 to 2011

It should be noted, however, that the City takes ownership of service laterals from the sewer main to the serviced property's easement line, which is approximately 12 feet from the roadside or curb. Because of this, many homeowners have two cleanouts, one to access the City owned portion of the service lateral, and a second lateral closer to the building to access the remainder of the service lateral.

The City does not currently have a tracking mechanism in place to readily determine the percentage of blockages in laterals versus the percentage in sewer mains; however, based on discussions with the quick response teams and a brief review of the Cityworks data, it appears that a majority of the blockages shown in Table 2 occurred in the City-owned portion of the service laterals.

E. Sanitary Sewer Overflows

Part II.B.2 of the NPDES Permits requires the City minimize or prevent discharges, and Part II.C.2 of the NPDES Permits requires the City operate and maintain all components of the system to achieve compliance with the conditions of the NPDES Permits. The Collection System Permit states at Part I.2 that the collection system must be "effectively managed, maintained, and operated at all times so that there is no SSO to land or surface waters, nor any contamination of groundwater." The NPDES Permits state at Part II.E.6.a that the City report all instances of noncompliance, including SSOs, that potentially threatens public health or the environment to NCDENR. The Collection System Permit states at Part IV.2 that all SSOs to surface waters must be reported; however, SSOs to land must be reported only if the volume of wastewater that overflowed was greater than 1,000 gallons.

Over the past six years, the City has, on average, reported 52 SSOs per year to NC DENR (see Table 3).

Table 3. Number of SSOs Reported to the NC DENR

Year	Number of SSOs Reported
FY 2010 -2011	54
FY 2009- 2010	57
FY 2008- 2009	55
FY 2007- 2008	76
FY 2006- 2007	41
FY 2005- 2006	34
Average	52

Due to the 1,000 gallon reporting threshold for SSOs to land, the backups discussed in the previous section may have resulted in several hundred additional smaller SSOs per year that were not reported. Specifically, the quick response team stated that backups into buildings are typically below the 1,000 gallon threshold and are therefore not reported.

F. Pump Stations

Pump stations are maintained by pump station maintenance crews that operate within the WWTP O&M division. All pump stations have been equipped with basic alarms such as wet well high and low level

alarms, and pump status alarms. The pump stations are visited on a weekly basis, except for the Eno and Lick pump stations which are visited daily due to their size.

The EPA Inspection team observed some moderate grease accumulation in some of the pump station wet wells, and noted some maintenance deficiencies with the pump station equipment. Specifically, the flow meter re-calibration period had expired at several pump stations; the wet well ventilation system at the Eno Pump Station had been destroyed during Hurricane Fran in 1996 and still had not been repaired; and the pump station valves are not exercised on a regular basis.

The City also recently completed a pump station risk assessment in which it determined that more than half of the pump stations are over 20 years old and may be approaching the end of their usable life. The risk assessment noted that the City's oldest pump stations showed signs of significant deficiencies due to their corrosive environments. Additionally the risk assessment noted that "approximately one quarter of the pump stations evaluated had screenings related issues, including high maintenance requirements, and non-functioning or missing bar screens or basket screens."

G. Wet Weather Capacity

The EPA Inspection team inspected a sewer main which runs parallel to the Eno River at West Point on the Eno Park in northern Durham. The manholes for the sewer main showed signs of recent surcharging up to and over the manhole covers (see Photographs 28-30). The City's maintenance staff stated that the sewer main has been known to overflow in the past during wet weather events. PG reviewed the Cityworks database for overflows reported at this location and found two customer complaints relating to this sewer main (see Table 4). It should be noted that the sewer main is in a park along a walking trail and not in a populated area. As such, overflows during wet weather would typically go unnoticed unless there are people walking the path during the wet weather event.

Table 4. Customer Complaints for Sewer Main in West Point on the Eno Park

By MESCHKO, MELINDA: 10/4/2012 1:40:00 PM SEWAGE LEAKING OUT OF MANHOLES "VENTING" FOR A CPL MONTHS @ WEST POINT ON THE ENO NEARDAM-@HEAD OF DAM MANHOLE 50' FROM DAM. MANHOLE CLOSEST TO DAM (STRONG SEWAGE ODOR AS WELL) WHEN IT RAINS HEAVILY IT IS COMING OUT. RIGHT NOW A CONTINUAL FLOW OF SEWAGE INTO THE RIVER. 1 MILE ABOVE H2O SUPPLY. ANOTHER ONE UP THE RIVER THAT VENTS AS WELL. PLEASE CALL RESIDENT, IF NEED ADDT'L INFO.
By MESCHKO, MELINDA: 10/24/2012 10:00:02 AM WEST POINT ON THE ENO. VERY STRONG SEWER ODOR. 4TH GRADERS ON FIELD TRIP HOLDING THEIR NOSES. SEWER MANHOLE @ THE DAM. 200 FT STRETCH OF RIVER SMELLS TERRIBLY. MUST @ LEAST NEED FLUSHING. PUBLIC HEALTH HAZARD.

The City stated during the inspection that it had no known wet weather capacity problems in the collection system; however, there appears to be a concern with at least this section of the collection system. It is unclear to the EPA Inspection Team if there are additional wet weather capacity issues.

H. FOG Program

The City has estimated that approximately 50 to 80 percent of its collection system blockages are caused by FOG. To combat this problem, the City uses radio and television advertisements to educate the public about proper FOG disposal. The City's FOG program is administered by its Industrial Pretreatment Program. At the time of the inspection, the City stated that it had allocated three full-time employee positions to the FOG program (1 manager plus 2 field employees); however, only the manager position was filled at the time of the inspection.

I. High Priority Line Inspection

The City has identified approximately 650 high priority lines. The lines are inspected twice each year, by the City's engineering department, following the City's semi-annual easement mowing program. The City was in the process of wrapping up an inspection cycle during the inspection and stated that no leaks or structural deficiencies were found.

J. O&M Manuals

When the City discussed its O&M programs during the inspection, the EPA Inspection Team inquired whether the City had developed any O&M plans, manuals, or standard operating procedures (SOPs) to support the programs. The City provided the EPA Inspection Team with some limited SOPs for responding to overflows and operating the wastewater treatment plants; however, the City stated that it did not have a comprehensive plan for operating and maintaining the collection system or for responding to wet weather events.

III. ASSESSMENT OF COMPLIANCE WITH PERMIT REQUIREMENTS

The EPA Inspection Team evaluated the City's compliance as it relates to the operation and maintenance of the City's collection system, as well as recordkeeping and reporting procedures. It should be noted that in addition to the conditions and limitations in the NPDES Permits and the Collection System Permit, the City is also required to adhere to the requirements of the North Carolina Administrative Code (NCAC). The EPA Inspection Team's findings are summarized in Table 5 below.

Table 5. Findings of Potential Noncompliance

Requirement	Permit/Regulatory References
Finding 1. Failure to manage, maintain, and operate the collection system to prevent SSOs.	Part II.B.2 & C.2 of NPDES Permits Part I.2 of Collection System Permit
Finding 2. Failure to adequately operate and maintain the pump stations.	Part II.B.2 & C.2 of NPDES Permits Part II.4 of Collection System Permit

A. Finding 1. Failure to Manage, Maintain, and Operate the Collection System to Prevent SSOs

The City has failed to manage, maintain, and operate the collection system to prevent SSOs as required by Part II.B.2 and Part II.C.2 of the NPDES Permits, as well as Part I.2 of the Collection System Permit. Specifically, Part II.B.2 of the NPDES Permits require:

> *The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit with a reasonable likelihood of adversely affecting human health or the environment.*

Part II.C.2 of the NPDES Permits require:

> *The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the Permittee to install and operate backup or auxiliary facilities only when necessary to achieve compliance with the conditions of this permit.*

Part I.2 the Collection System Permit requires:

> *The wastewater collection system shall be effectively managed, maintained and operated at all times so that there is no SSO to land or surface waters, nor any contamination of groundwater.*

As discussed in section I.E of this report (Sanitary Sewer Overflows), the City has reported, on average, 52 SSOs per year over the past six years. Additionally, there may be several hundred additional SSOs in the form of building backups and backups to land which are not reported because they are below the 1,000 gallon reporting limit for SSOs that do not reach surface waters.

Additionally the EPA Inspection Team observed that the City did not clean up building backup SSOs during the inspection. Specifically, the City did not clean up the SSO at 1702 Forest Road after clearing the blockage which caused the overflow. Instead, the City crews instructed the homeowner that he should clean up the area and disinfect it with bleach.

As a result of the inspection, the EPA Inspection team has concluded that the City has failed to manage, maintain, and operate the collection system to prevent SSOs as required by Part II.B.2 and Part II.C.2 of the NPDES Permits, as well as by Part I.2 of the Collection System Permit.

B. Finding 2. Failure to Adequately Operate and Maintain the Pump Stations.

The City has failed to adequately operate and maintain the pump stations as required by Part II.B.2 and Part II.C.2 of the NPDES Permits, as well as Part II.4 of the Collection System Permit. Specifically, Part II.4 of the Permit requires:

> *The Permittee shall develop and implement a routine pump station inspection and maintenance program, which shall include, but not be limited to, the following maintenance activities:*
>
> *a. Cleaning and removing debris from the pump station structure, outside perimeter, and wet well;*
> *b. Inspecting and exercising all valves;*
> *c. Inspecting an lubricating pumps and other mechanical equipment according to the manufacturer's recommendations; and*
> *d. Verifying the proper operation of the alarms, telemetry system and auxiliary equipment.*

As discussed in section I.F of this report (Pump Stations), the EPA Inspection team observed some moderate grease accumulation in some of the pump station wet wells and noted some maintenance deficiencies with the pump station equipment. Specifically, the flow meter re-calibration period had expired at several pump stations; the wet well ventilation system at the Eno Pump Station had been destroyed during Hurricane Fran in 1996 and still had not been repaired; and the pump station valves are not exercised on a regular basis.

The City also recently completed a pump station risk assessment in which it determined that more than half of the pump stations are over 20 years old and may be approaching the end of their usable life. The risk assessment noted that the City's oldest pump stations showed signs of significant deficiencies due their corrosive environments. Additionally the risk assessment noted that "approximately one quarter of the pump stations evaluated had screenings related issues, including high maintenance requirements, and non-functioning or missing bar screens or basket screens."

As a result, the City has failed to adequately operate and maintain the pump stations as required by Part II.B.2 and Part II.C.2 of the NPDES Permits, as well as Part II.4 of the Collection System Permit.

IV. RECOMMENDED REFERENCE MATERIALS

The EPA Inspection Team discussed the aforementioned findings with the City and emphasized the need for developing a comprehensive O&M plan for the collection system. The plan should include structured and written standard operating procedures (SOPs) for both preventive and reactive components of sewer maintenance (including cleaning) performed by the City.

The SOPs should include detailed step-by-step procedures for conducting the maintenance and cleaning activities including, but not limited to,

- Pipe maintenance activities such as preventive maintenance, cleaning, CCTV evaluations, and blockage removal;
- Types of equipment to be used (i.e., "tiger tails," nozzles, screens/rakes, etc.);
- Guidelines and/or reference tables for appropriate jetting pressures and flows based on the type of jetting activity, type of pipe, size of pipe, age of pipe, and known condition of pipe; and
- Formal documentation of pipe conditions, materials removed during cleaning, and other findings for review by managerial staff.
- Considerations for succession planning to ensure a diverse workforce with a full spectrum of skill-sets.

While the City cleaning crews did demonstrate considerable institutional knowledge during the inspection, the operation of high pressure sewer equipment without formal training and without SOPs can create serious safety issues and may significantly damage the structural integrity of the sewer pipe. Reference materials to support the development of the SOPs are available from various sources (equipment manufacturers, equipment vendors, professional associations, etc.), including references such as the National Association of Sewer Service Companies' *Jetter Code of Practice* (http://nassco.org/publications/p_techman.html) which provides guidelines for the proper operation of sewer jetter equipment.

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APPENDIX A – Asset-specific Observations

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Asset-specific Observations

Asset	Date and Time of Inspection	Photo Log Reference	Observations
North Side WWTP	10/23/12 2:15 p.m.	No Photos Taken	The EPA Inspection Team discussed wet weather operations with the treatment plant supervisor and determined that only limited SOPs existed for wet weather conditions.
Glenview Pump Station	10/23/12 3:00 p.m.	1-4	The pump station includes a wet well with two submersible pumps. There was minimal grease accumulation in the wet well. The pump station has been equipped with a bioxide dosing system for odor control, a backup generator, and a telemetry system which monitors the wet well, pumps, and backup generator.
Fletcher Chapel Pump Station	10/23/12 3:30 p.m.	5-8	The pump station includes a wet well with two submersible pumps. The wet well could not be observed due to confined space entry. The pump station has been equipped with a bioxide dosing system for odor control, a backup generator, and a telemetry system which monitors the wet well, pumps, and backup generator. There was a significant accumulation of solids removed from the bar screens on the influent side of the pump station.
Lick Creek Pump Station	10/23/12 4:00 p.m.	9-13	The pump station includes a wet well with three pumps. The pump station has been equipped with a bioxide dosing system for odor control, a backup generator, and a telemetry system. The pump station used to be a satellite treatment plant and therefore also includes two clarifiers which are out of service.
Eno Pump Station	10/24/12 8:45 a.m.	14-16	The pump station includes a wet well and a dry well with three pumps. The pump station has been equipped with a bioxide dosing system for odor control, a backup generator, and a telemetry system. The ventilation system for the pump station was destroyed during hurricane Fran in 1996 and had not yet been repaired. The wet well was not observed due to confined space entry.
Treyburn 3 Pump Station	10/24/12 9:30 a.m.	17-20	The pump station includes a wet well and two pumps. There was a minor accumulation of grease in the wet well. The pump station has been equipped with a bioxide dosing system for odor control, a backup generator, and a telemetry system which monitors the wet well, pumps, and backup generator.

Asset	Date and Time of Inspection	Photo Log Reference	Observations
Wiley Avenue and Barry Street Sewer Cleaning	10/24/12 10:00 a.m.	21-22	The City crews cleaned a segment of vitrified clay pipe. The cleaning crew ran the jetter out at a pressure of 1,000 psi and pulled it back at a pressure of 1,800 psi with a flow of 80 gallons per minute. After an initial jetting the cleaning crew typically attaches either a root cutter or grease cleaning head to perform a second cleaning pass. After the cleaning the line was inspected via CCTV to confirm the line's structural integrity.
Aerial High Priority Line at Northgate Dog Park	10/24/12 11:00 a.m.	23	The aerial line crosses Ellerbe Creek north of the Northgate Dog Park. No structural deficiencies were observed, and no leaking was visible.
SSO at 1702 Forest Road	10/24/12 11:50 a.m.	24-25	A blockage in the City portion of a residential lateral caused a backup onto the front yard of the residence. The City crews cleared the blockage but did not clean up the spilled wastewater and debris. The overflow was approximately 5 gallons in size.
Charlestown Road Sewer Surcharge	10/24/12 2:00 p.m.	26-27	There was a blockage in a sewer line which caused a surcharged manhole. The City cleaning crew ran the jetter out at 3,000 psi and pulled it back at 4,000 psi. There were rags wrapped around the nozzle when it was pulled out of the sewer.
West Point on the Eno Park	10/25/12 9:30 a.m.	28-34	The EPA Inspection Team inspected a sewer line that runs parallel to the Eno River in the West Point on the Eno Park. The City crews accompanying the EPA Inspection Team stated that the line frequently surcharges and that the crews had been there several times previously for overflows from the manholes on the sewer line. The manholes that were inspected during the inspection all showed signs of recent and/or frequent surcharging.

APPENDIX B – Sample Rodding Report

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Department of Water Management W/S Maintenance Division

Sanitary Sewer Rehabilitation Program

Daily Operations Report

Date 8-1-12

Street/Easement Hope valley o/p ( ) EMR ( ) FLW (✓) RTN ( ) SSE ( ) SWS ( )
Basin — Subsystem L4-C Monitor HV0 ( ) CHK ( ) ROD (✓) JET ( ) MTV ( ) MOW ( )
From Manhole 26871 To Manhole 09912 ( ) LAT ( ) MNL (✓) OUT ( ) STM ( ) FAC ( )
Length 300 Diameter 15 Type Pipe RCP ( ) CLR ( ) LTE ( ) MOD (✓) SVR ( ) BLK ( )
RS # _____ WO # 460775 SR # _____ ( ) RTS ( ) GRE (✓) GVL ( ) MUD ( ) BKP ( )
Comment :

Street/Easement Hope valley o/p ( ) EMR ( ) FLW (✓) RTN ( ) SSE ( ) SWS ( )
Basin — Subsystem L4-C Monitor HV0 ( ) CHK ( ) ROD (✓) JET ( ) MTV ( ) MOW ( )
From Manhole 09912 To Manhole 09913 ( ) LAT ( ) MNL (✓) OUT ( ) STM ( ) FAC ( )
Length 258 Diameter 15 Type Pipe RCP ( ) CLR ( ) LTE ( ) MOD (✓) SVR ( ) BLK ( )
RS # _____ WO # 460775 SR # _____ ( ) RTS ( ) GRE (✓) GVL ( ) MUD ( ) BKP ( )
Comment:

Street/Easement Hope valley o/p ( ) EMR ( ) FLW (✓) RTN ( ) SSE ( ) SWS ( )
Basin — Subsystem L4-C Monitor HV0 ( ) CHK ( ) ROD (✓) JET ( ) MTV ( ) MOW ( )
From Manhole 09913 To Manhole 09898 ( ) LAT ( ) MNL (✓) OUT ( ) STM ( ) FAC ( )
Length 600 Diameter 15 Type Pipe RCP ( ) CLR ( ) LTE (✓) MOD ( ) SVR ( ) BLK ( )
RS # _____ WO # 460775 SR # _____ ( ) RTS ( ) GRE (✓) GVL ( ) MUD ( ) BKP ( )
Comment:

Street/Easement _____ ( ) EMR ( ) FLW ( ) RTN ( ) SSE ( ) SWS ( )
Basin _____ Subsystem _____ Monitor _____ ( ) CHK ( ) ROD ( ) JET ( ) MTV ( ) MOW ( )
From Manhole _____ To Manhole _____ ( ) LAT ( ) MNL ( ) OUT ( ) STM ( ) FAC ( )
Length _____ Diameter _____ Type Pipe _____ ( ) CLR ( ) LTE ( ) MOD ( ) SVR ( ) BLK ( )
RS # _____ WO # _____ SR # _____ ( ) RTS ( ) GRE ( ) GVL ( ) MUD ( ) BKP ( )
Comment:

Street/Easement _____ ( ) EMR ( ) FLW ( ) RTN ( ) SSE ( ) SWS ( )
Basin _____ Subsystem _____ Monitor _____ ( ) CHK ( ) ROD ( ) JET ( ) MTV ( ) MOW ( )
From Manhole _____ To Manhole _____ ( ) LAT ( ) MNL ( ) OUT ( ) STM ( ) FAC ( )
Length _____ Diameter _____ Type Pipe _____ ( ) CLR ( ) LTE ( ) MOD ( ) SVR ( ) BLK ( )
RS # _____ WO # _____ SR # _____ ( ) RTS ( ) GRE ( ) GVL ( ) MUD ( ) BKP ( )
Comment:

Vehicle # 62309 *Supervisor* C. Dorsey

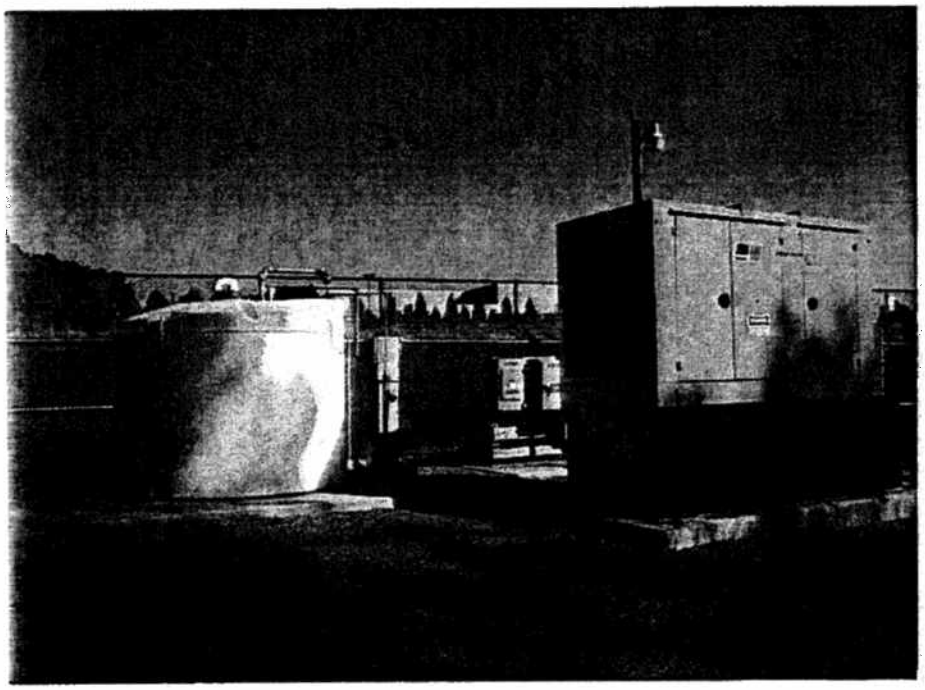
Department of Public Works • Engineering • 101 City Hall Plaza • Durham • NC 27701 • Fax 919 560 4316 • Phone 919 560 4326

SANITARY SEWER SYSTEM COMPLIANCE INSPECTION

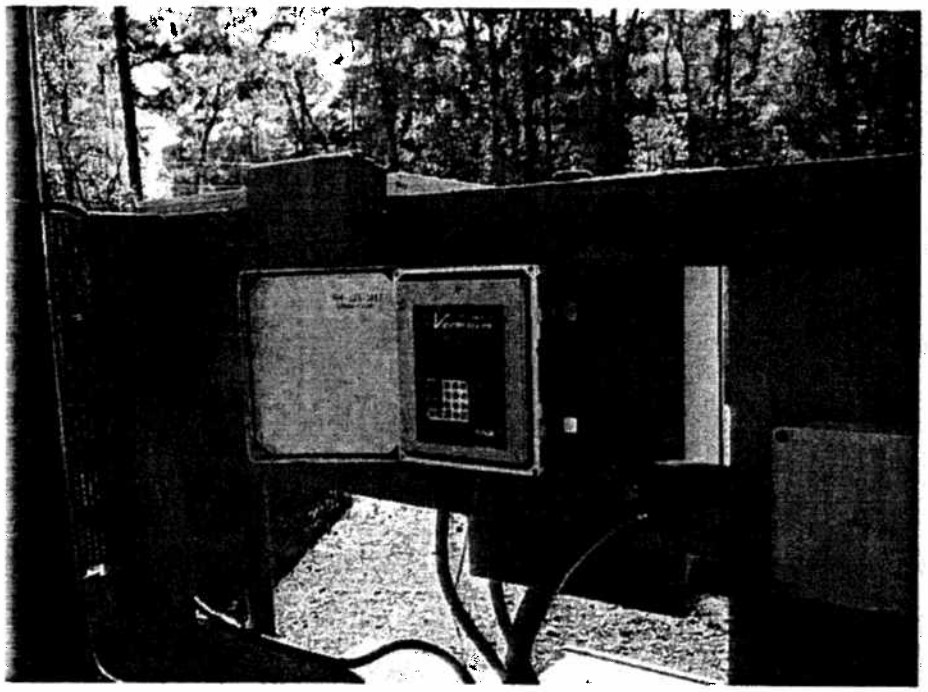
CITY OF DURHAM, NORTH CAROLINA

Photograph Log

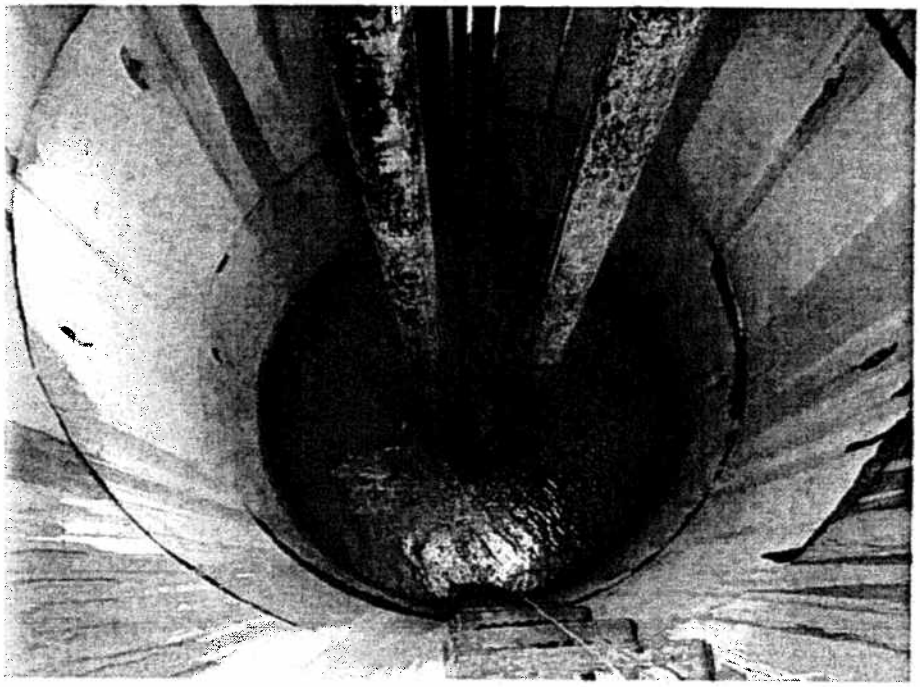
Photograph 1. **Glenview Pump Station – View of pump station identification sign.**



Photograph 2. **Glenview Pump Station – View of backup generator and bioxide storage tank.**

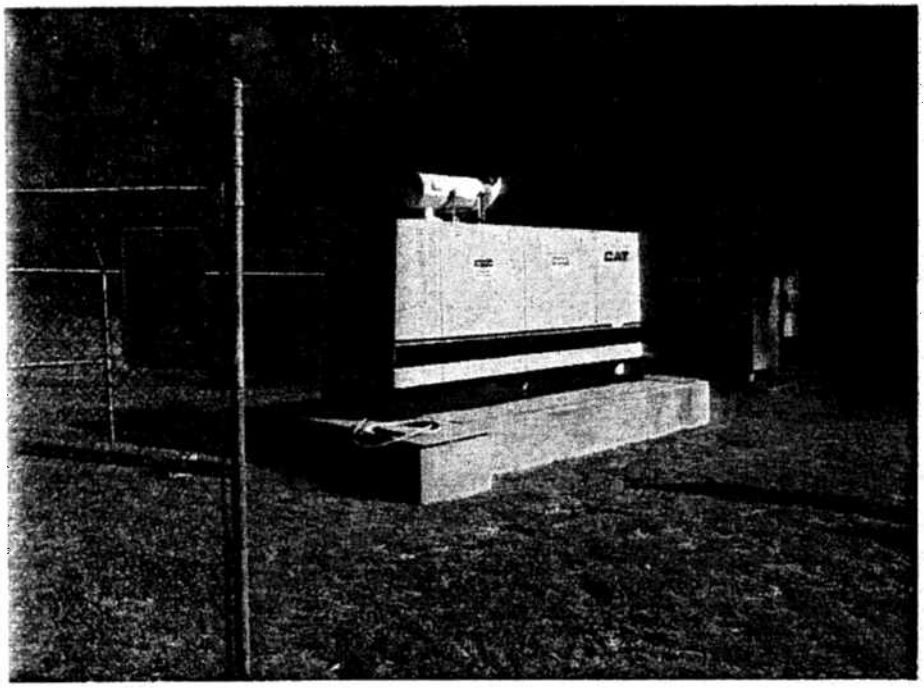


Photograph 3. Glenview Pump Station – View of pump station telemetry system.

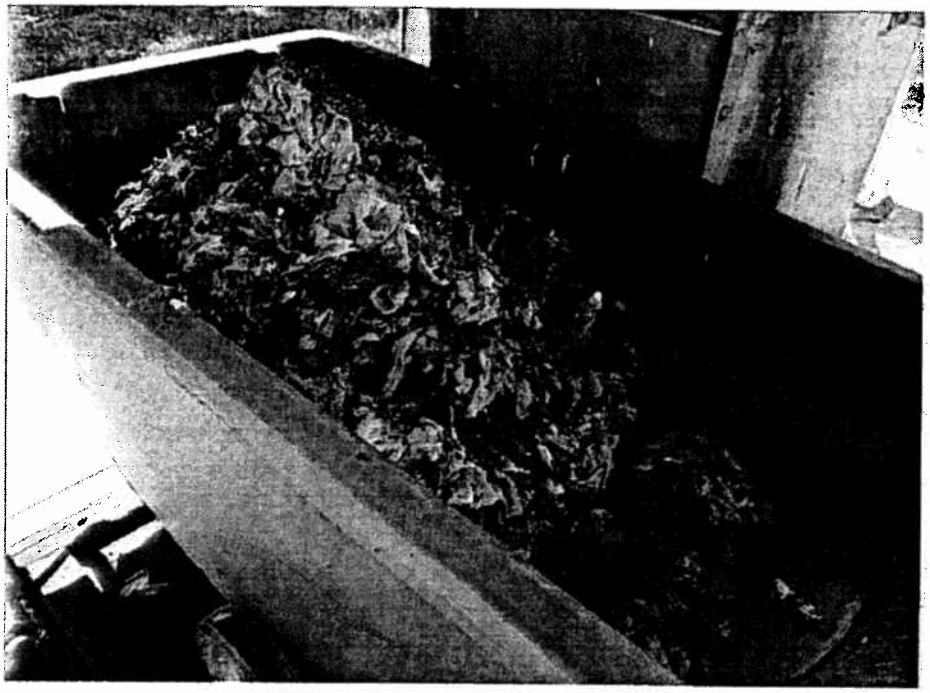


Photograph 4. Glenview Pump Station – View of pump station wet well.

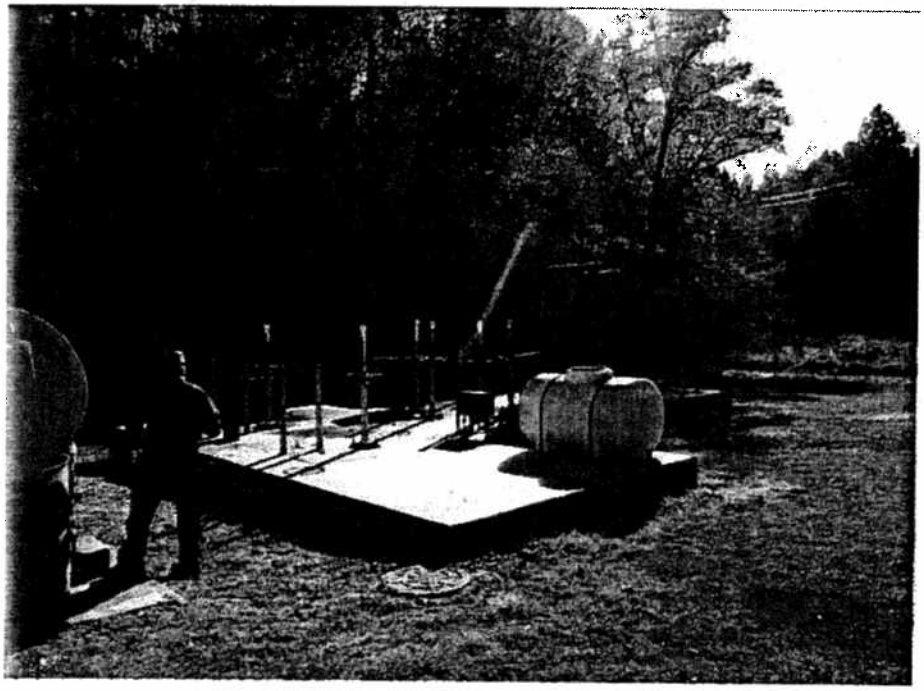
Photograph 5. Fletcher Chapel Pump Station – View of pump station identification sign.



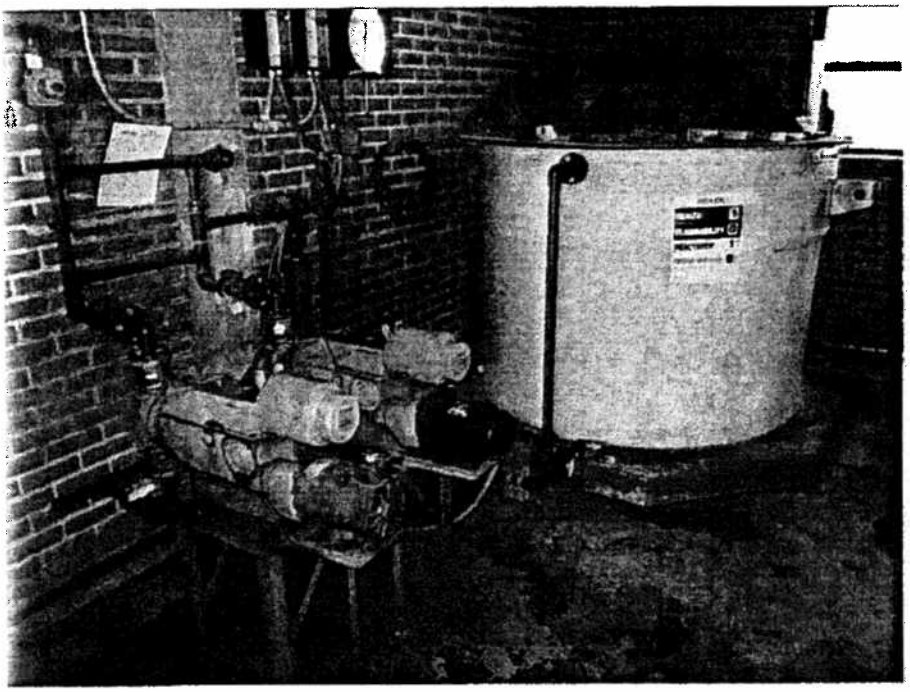
Photograph 6. Fletcher Chapel Pump Station – View of pump station backup generator.



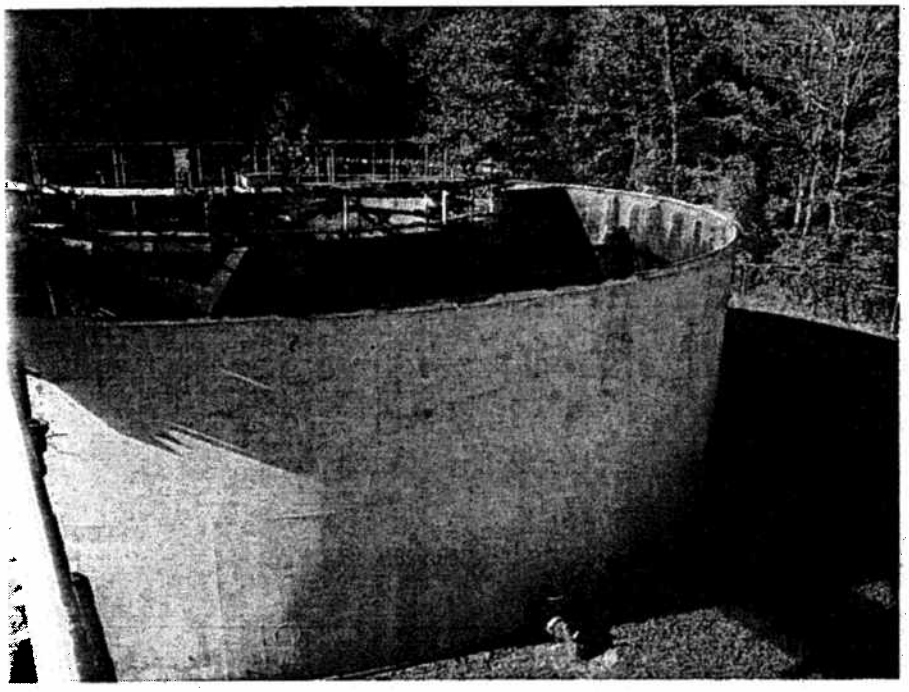
Photograph 7. **Fletcher Chapel Pump Station – View of solids from pump station screening.**



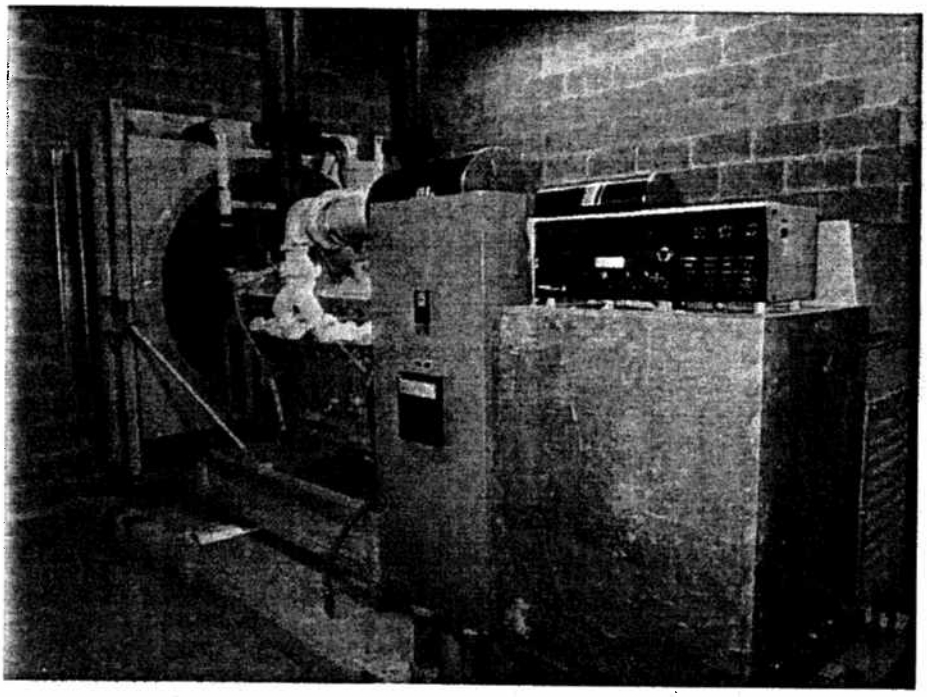
Photograph 8. **Fletcher Chapel Pump Station – View of pump station.**



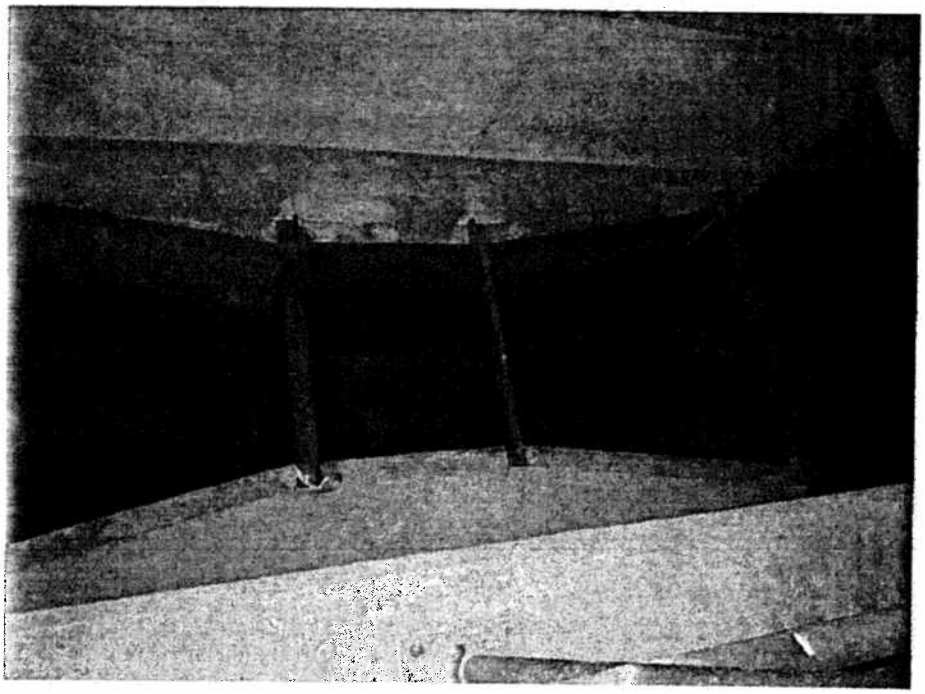
ph 9. Lick Creek Pump Station – View of bioxide dosing system.



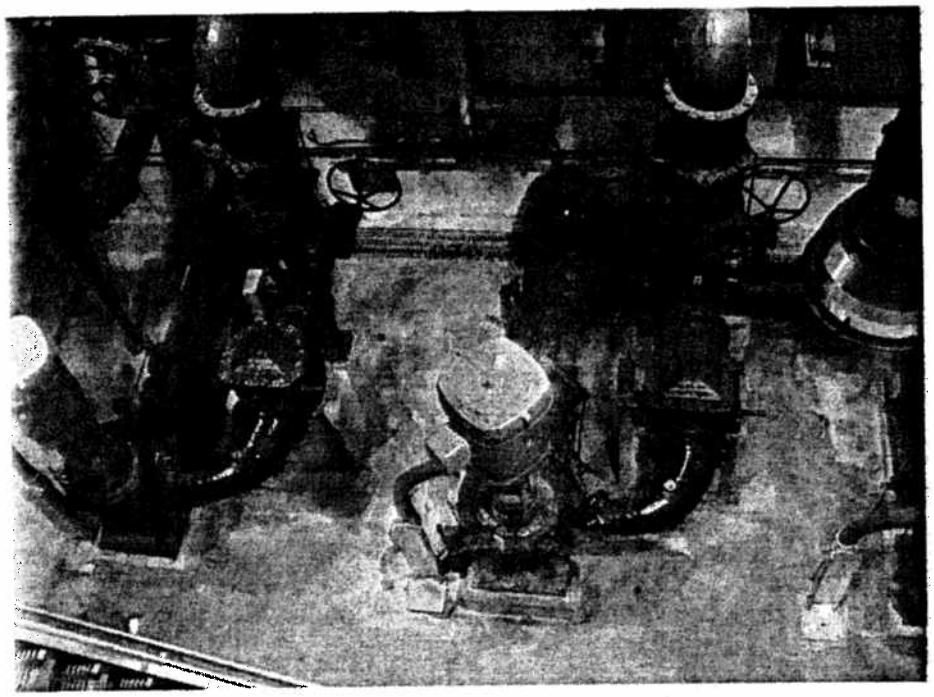
ph 10. Lick Creek Pump Station – View of inactive clarifiers.



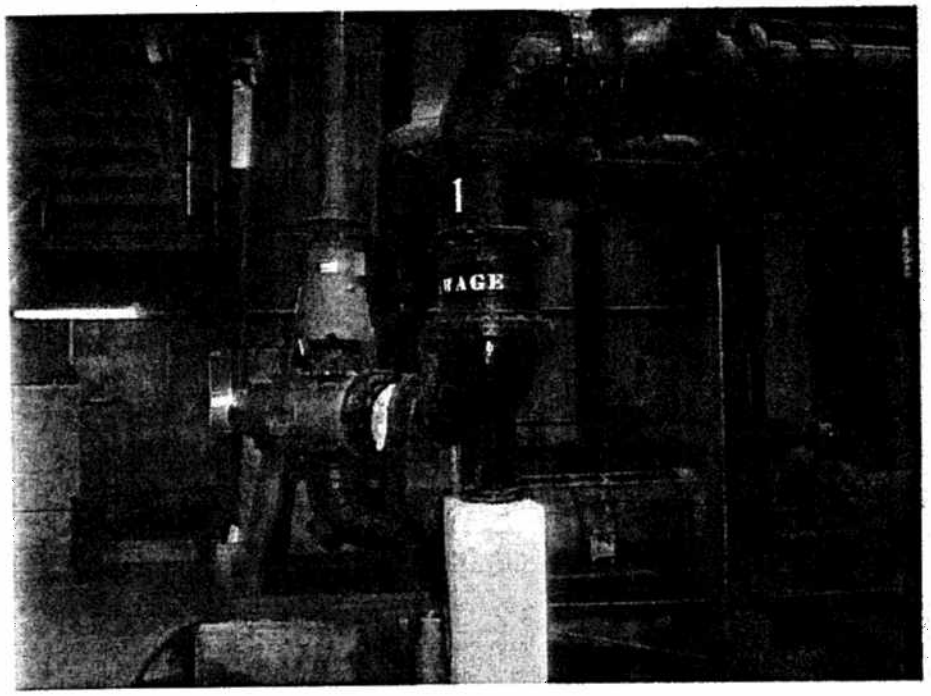
Photograph 11. Lick Creek Pump Station – View of backup generators.



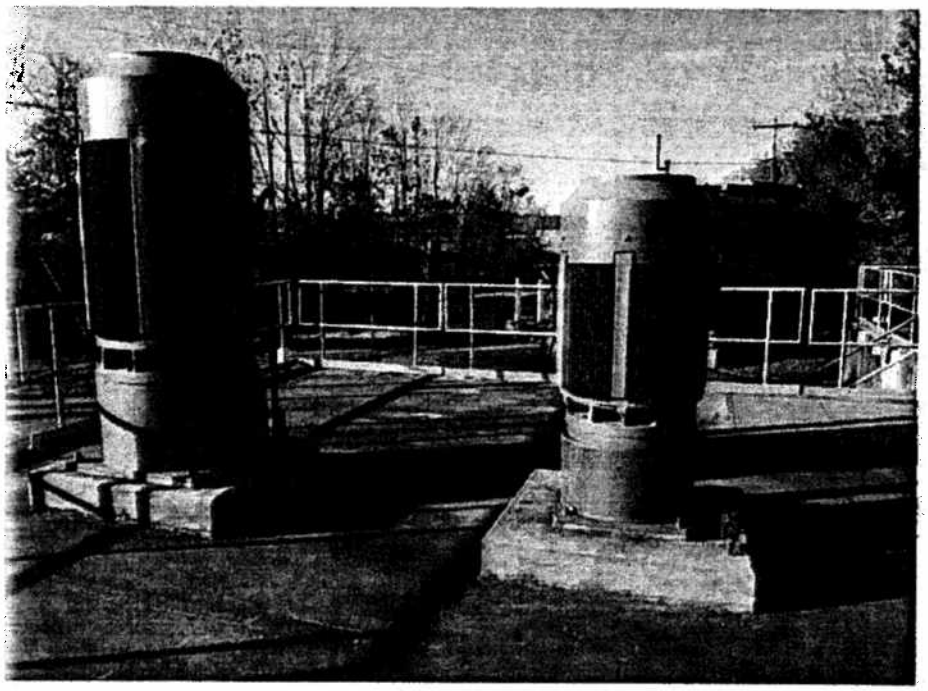
Photograph 12. Lick Creek Pump Station – View of Parshall flume in wet well.



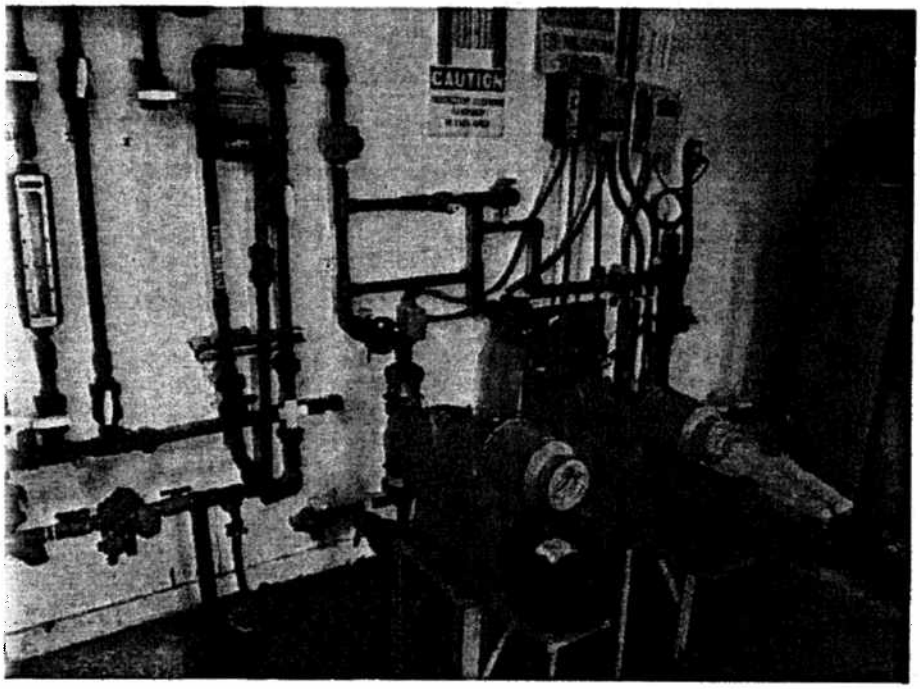
Photograph 13. Lick Creek Pump Station – View of pumps in dry well.



Photograph 14. Eno Pump Station – View of one of the three pumps in the dry well.



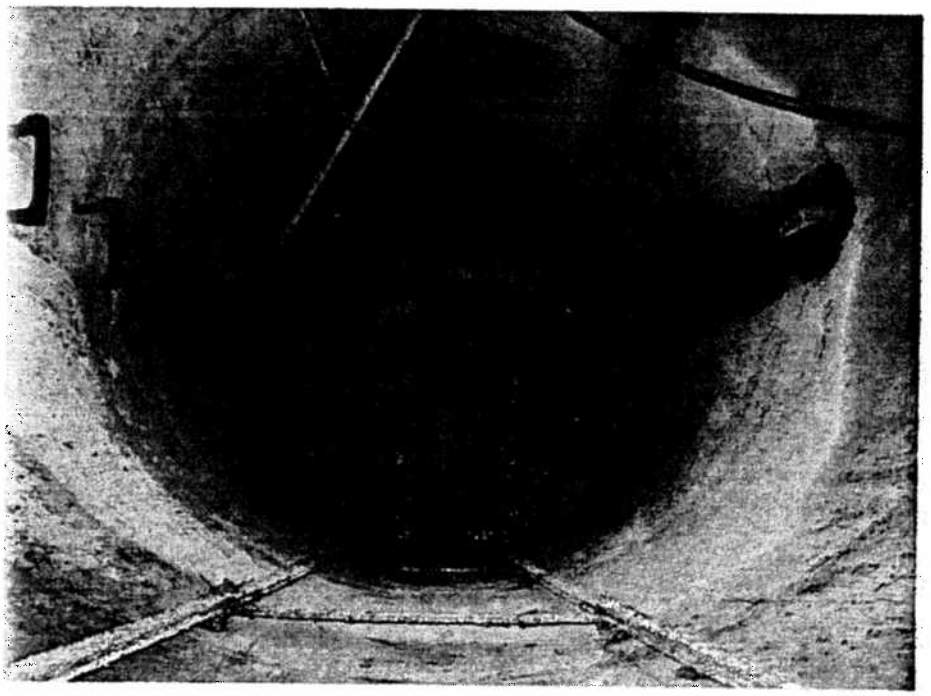
Photograph 15. Eno Pump Station – View of two of the three pump motors.



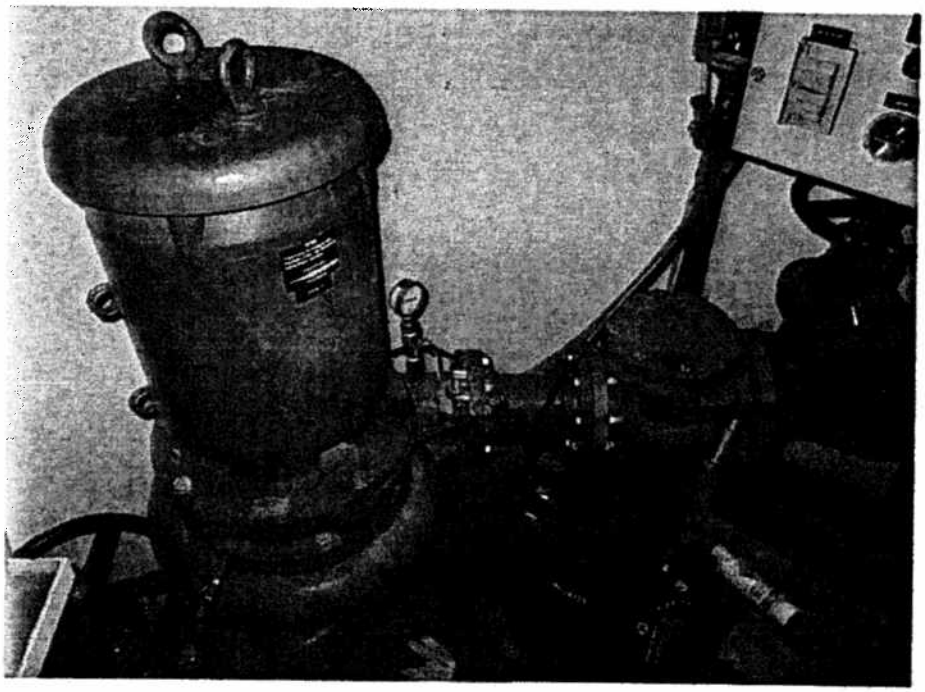
Photograph 16. Eno Pump Station – View of bioxide dosing system.

Photograph 17. Treyburn 3 Pump Station – View of pump station identification sign.

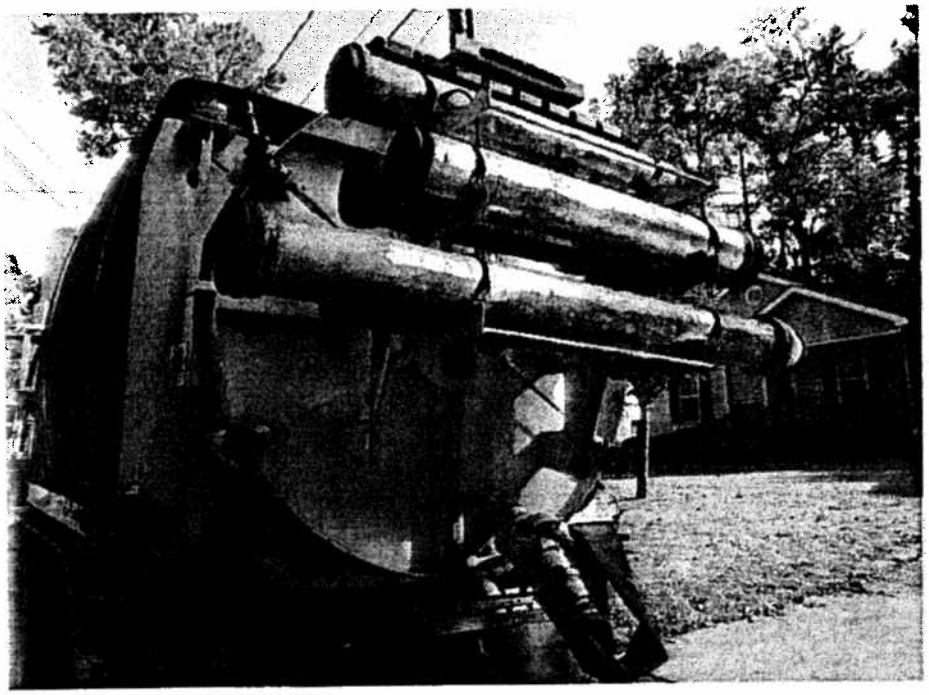
Photograph 18. Treyburn 3 Pump Station – View of pump station wet well and access hatch to the dry well.



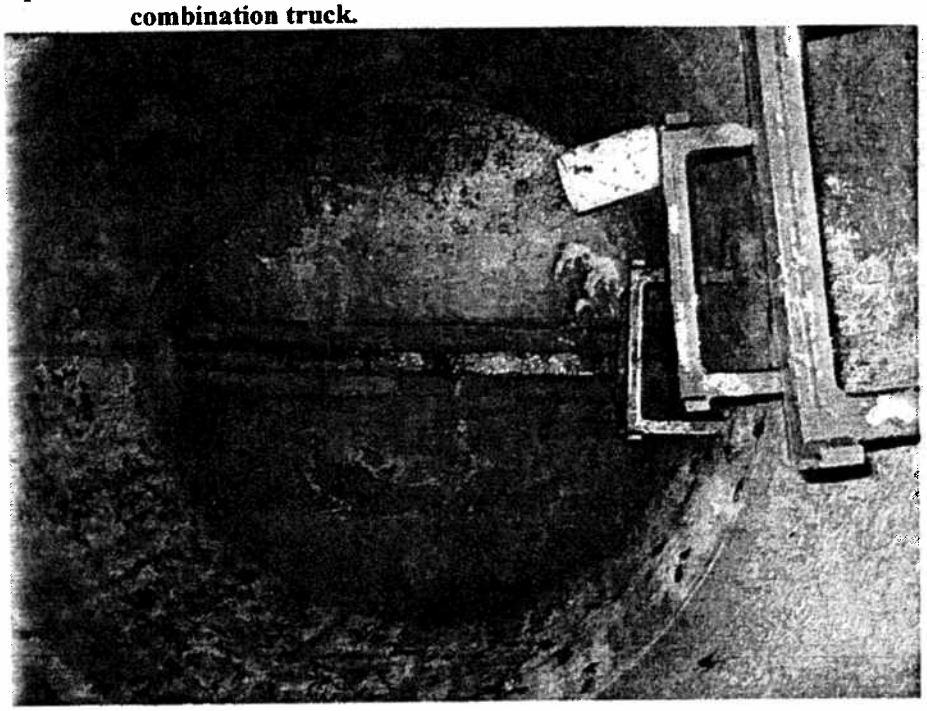
Photograph 19. Treyburn 3 Pump Station – View of pump station wet well.



Photograph 20. Treyburn 3 Pump Station – View of pump station dry well and one of the two pumps.



Photograph 21. **Wiley Avenue and Barry Street Sewer Cleaning – View of jetter/vactor combination truck.**

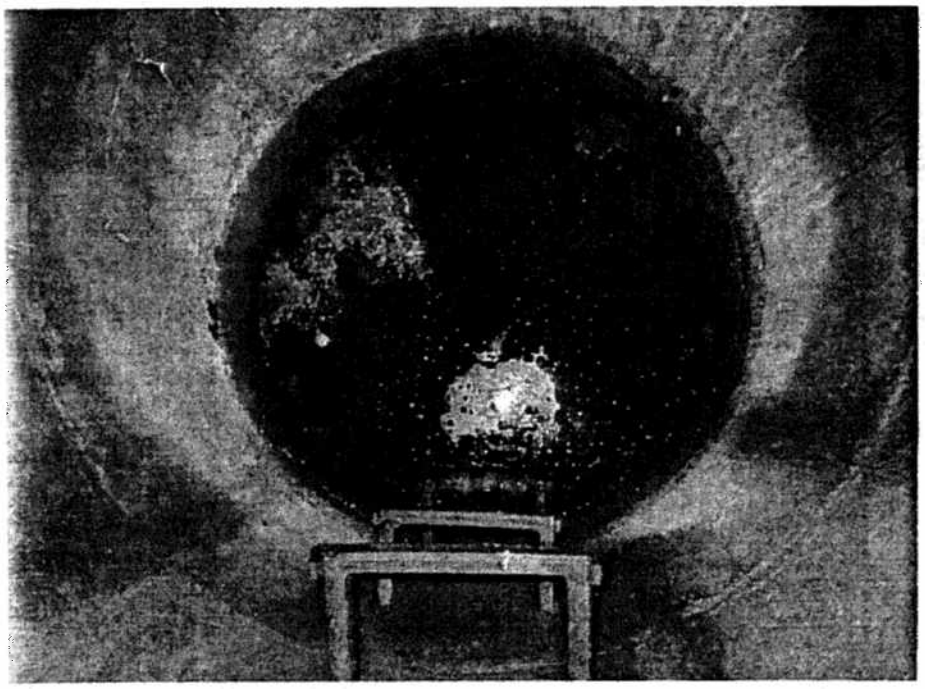


Photograph 22. **Wiley Avenue and Barry Street Sewer Cleaning – View of sewer line after cleaning.**

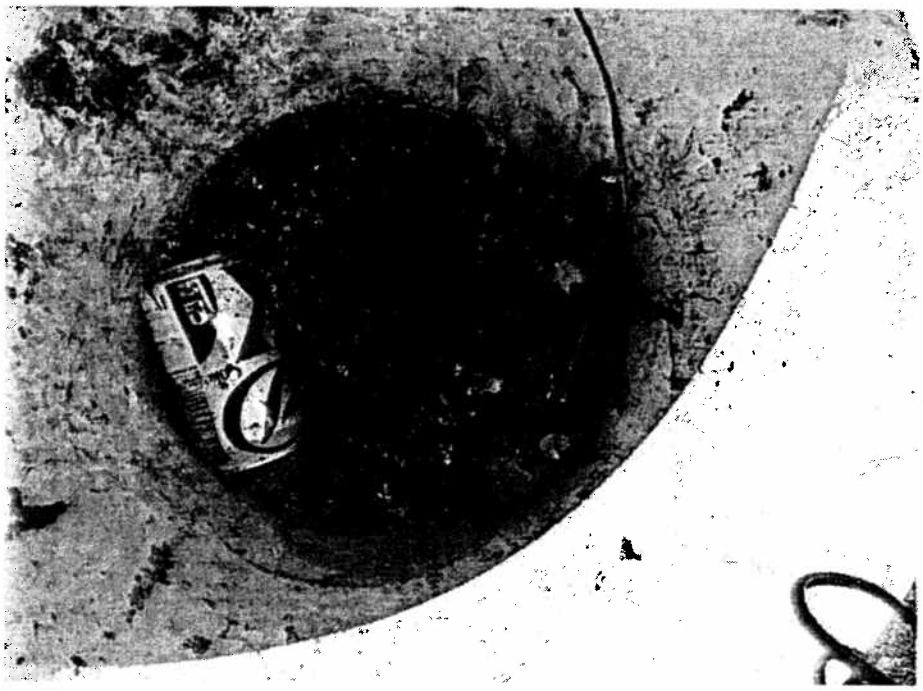
Photograph 23. High Priority Line – View of aerial sewer line at Northgate Dog Park.

Photograph 24. 1702 Forest Road – View of overflowed sewage at residential building.

Photograph 25. 1702 Forest Road – View of city cleanout used to clear blockage.

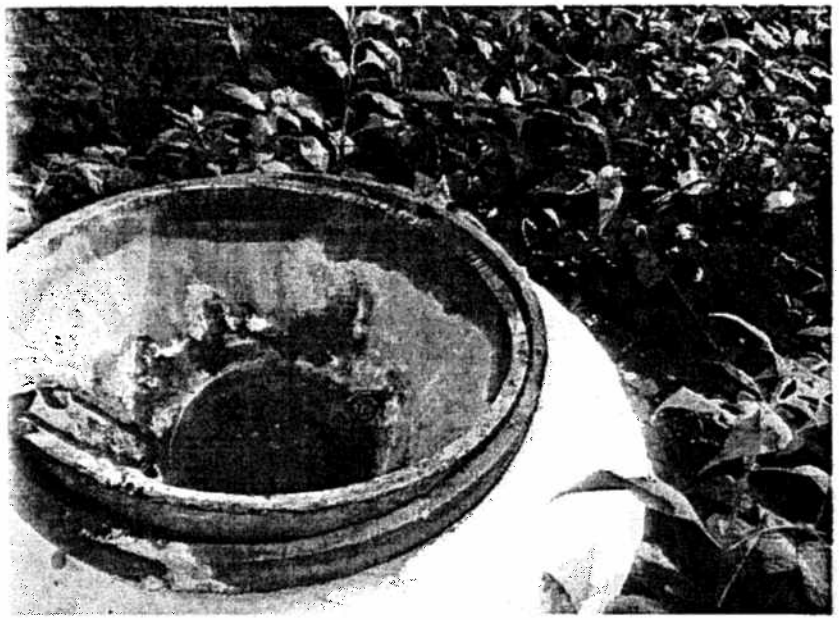


Photograph 26. Charlestown Road Sewer Surcharge - View of surcharged manhole.

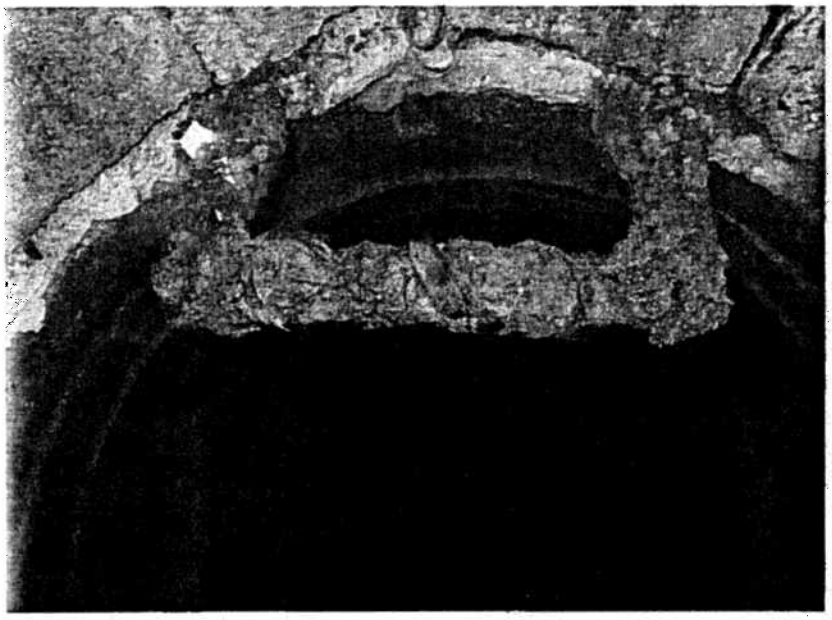


Photograph 27. **Charlestown Road Sewer Surcharge - View of material removed from sewer that was causing the surcharge.**

Photograph 28. **West Point on the Eno Park – View of manhole showing evidence of surcharging. Note the manhole is approximately 20 feet from the Eno River.**

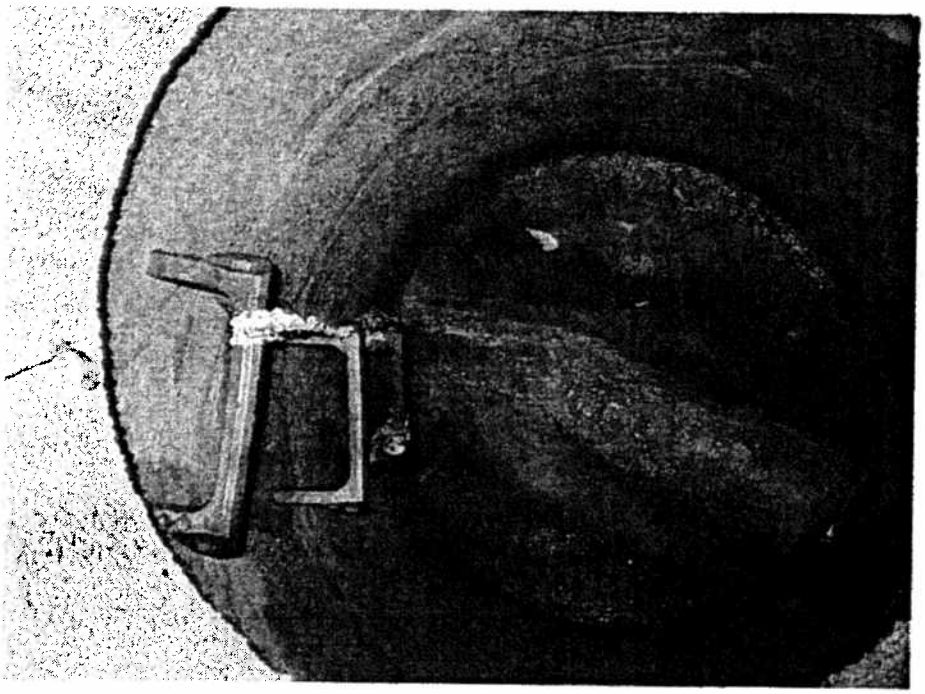


Photograph 29. **West Point on the Eno Park – View of manhole shown in Photograph 28 after removal of the manhole cover. Note the wastewater debris accumulated in the manhole insert.**



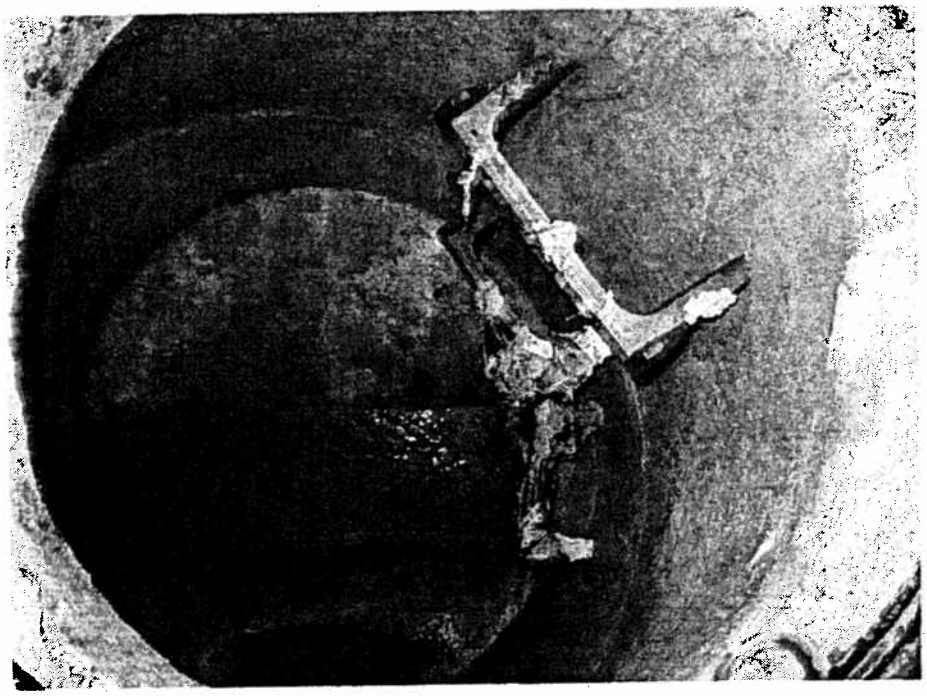
Photograph 30. **West Point on the Eno Park – View of manhole shown in Photograph 28 after removal of the odor control insert. Note the accumulation of debris on the top ladder rung indicating frequent surcharging.**

Photograph 31. **West Point on the Eno Park – View of additional manhole approximately 50 feet from the Eno River.**



Photograph 32. **West Point on the Eno Park – View of manhole shown in Photograph 31 after removing manhole cover. Note the accumulation of debris on the top ladder rung indicating surcharging.**

Photograph 33. **West Point on the Eno Park – View of additional manhole approximately 40 feet from the Eno River.**



Photograph 34. **West Point on the Eno Park – View of manhole shown in Photograph 33 after removing manhole cover. Note the accumulation of debris on the top ladder rung indicating surcharging.**